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# **Environmental Assessment**

## **Adjustments to Management and Improvements on Four Grazing Areas**

**Cheat, Greenbrier, and Marlinton-White Sulphur Ranger Districts  
Monongahela National Forest  
Tucker, Randolph, Greenbrier and Pocahontas Counties, West Virginia**

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## SUMMARY

The Monongahela National Forest proposes to make adjustments to management and improvements (livestock facilities) on four grazing areas. The project areas are the Rimel, Allegheny Battlefield, and Queens Grazing Allotments, and the Callison/Clark Tract Grazing Special Use Permit Area. These four areas are within the Cheat, Greenbrier, and Marlinton-White Sulphur Ranger Districts, Monongahela National Forest, West Virginia. This action is needed because opportunities exist and natural resources would be further protected or improved from changes in management and facilities on these areas.

The Proposed Action would continue to allow the grazing of livestock on these four grazing areas while making some adjustments to the way these areas are presently managed. Livestock facilities would also be improved or added.

In addition to the Proposed Action, the Forest Service also evaluated the following alternatives:

- *A No Action alternative*
- *An alternative where no herbicide would be used to control noxious/non-native/invasive vegetation*

Based upon the effects of the alternatives, the responsible official will decide which alternative to approve for implementation.

## Document Structure

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The Forest Service has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action and Alternatives. The document is organized into four parts:

- *Introduction:* This section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Alternatives:* This section provides a description of the agency's Proposed Action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on substantial issues raised by the public and/or other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Environmental Consequences:* This section describes the environmental effects of implementing the Proposed Action and other Alternatives. This analysis is organized by resource area.
- *Agencies and Persons Consulted:* This section provides a list of persons and agencies consulted and that provided input during the development of the environmental assessment.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental assessment (EA).

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Supervisor's Office of the Monongahela National Forest in Elkins, WV.

## **CHAPTER 1**

### **INTRODUCTION**

Administration of grazing permits and monitoring of grazing areas by Monongahela National Forest personnel has indicated that, on the four selected grazing areas, changes could be made to livestock facilities and in the way livestock are being grazed, to improve the management and resource conditions of these areas.

The Proposed Action applies Monongahela National Forest Land and Resource Management Plan direction. Such Plan directions as "Open areas will continue to be managed for grazing, wildlife habitat, and scenery", (Forest Plan, pg. 33), "Maintain open areas of National Forest Land for forage, wildlife and visual purposes", (pg. 38), and "Ensure diversity of vegetation types by providing a mix of opportunity areas, openings, regeneration, old growth, mast producers, wetlands, forage, thermal cover and other vegetation types", (pg. 54), have been influential in the development of the Proposed Action.

All four project areas occur within 6.1 management prescription areas where the primary emphasis is placed on "remote habitat for wildlife species intolerant of disturbance" (pg 164). The desired future

condition for 6.1 management prescription areas includes “The Forest area will be a mosaic of tree stands and openings with a near optimum quantity and dispersion of the habitat elements that feature the wild turkey and black bear along with associated wildlife species” (pg 165).

Pages 60-63 of the Forest Plan provide forest wide standards/guides on how range management planning, grazing, and range improvements should be implemented on the Forest. Some of the direction in these standards and guides include:

- a. “Introduction of legumes into pastures will be emphasized over application of nitrogen fertilizer, and re-vegetation activities will encourage vegetative diversity where practical.”
- b. “Soil supplements will be added to grazing areas only after soil analysis.....”
- c. “Most spring developments will be protected either by head-boxes and/or fencing of bog and seep areas.”
- d. “Streams will be fenced from cattle except for selected access points, ...”
- e. “A minimum 25 foot filter strip will be maintained between applications of lime and fertilizer and watercourses, both permanent and intermittent.”
- f. “Rotational grazing will be encouraged as the dominant grazing system to assure balancing of use over the allotment, avoiding overuse of the most desirable areas, and to allow re-growth of the most desirable forage species.”

Page 169 of the Forest Plan provides general direction and standards/guides for range/grazing in 6.1 management prescription areas. Some of this direction includes:

- a. “Provide for low to moderate levels of grazing. Open areas will be maintained predominately for wildlife by grazing cattle. Range management will emphasize maintaining an adequate mixture of grass species suitable for supporting livestock through the grazing season.”
- b. “Liming and fertilizing will be encouraged; however, planting of exotic forage plants will not be favored without EA evaluation on a case by case basis.”

Page 166 of the Forest Plan contains a standard/guideline that calls for having at least 5% of the gross area in the 6.1 management prescription in permanent openings.

The Forest Plan standards and guidelines, page 61, states that the Forest should convert existing special use pasture permits to grazing permits where the land area can logically be managed as a grazing allotment. The 33 acre Callison/Clark grazing special use permit area can be logically managed as a grazing allotment and therefore, through approval of this EA, the Forest would be implementing this Forest Plan direction. The multi-year special use permit for this area has expired. There is a need to either re-issue a new multi-year grazing special use permit for this area or allow the grazing of this area to continue by converting it to a grazing allotment under a term (10 year) grazing permit.

**Area Descriptions/Affected Environment** (Also see allotment maps in the appendices and Table 1 below)

The Rimel Allotment lies in a valley bottom at Rimel, WV. The allotment is relatively flat. The elevation is approximately 2400 feet. Cochran Creek flows through the allotment and has been fenced from livestock use. Outside of the allotment to the north is Laurel Creek. Both Cochran Creek and Laurel Creek flow



north and west into Douthat Creek. There are no wetlands in the allotment. In the south part of the second pasture there is a small un-named intermittent creek that flows into Cochran Creek. This creek is not fenced out from grazing. The allotment contains two pastures. Both pastures contain a fenced pond for livestock water. An access ramp at each pond allows livestock to walk down to a restricted portion of the pond to drink. Adjacent to the main gate of the allotment is a small parking lot and an interpretive sign. Forage species includes orchard grass, bluegrass, and white clover. Multi-flora rose (a non-native invasive species and noxious weed) is a substantial problem in the fenced out riparian area of Cochran Creek, around the allotment boundary fence, and in places within the allotment, and is in need of control.

The Allegheny Battlefield Allotment is a high elevation, mostly ridge top allotment. The elevation is approximately 4250 feet. Of the four proposed project areas it contains the most sloping ground. At present, the allotment contains one spring/wetland/water trough livestock watering development. The spring and the small wetland below it are fenced out. On the east side of the allotment is an unnamed, wooded, intermittent creek that flows into the headwaters of Little River of the East Fork of the Greenbrier River. This riparian area is wooded and downhill from forage. It is not fenced out from livestock grazing. Monitoring has shown little livestock use of this area. As a portion of a Civil War battlefield the continued grazing of this allotment would help maintain the historic characteristics of this National Register cultural resource site. The allotment is primarily native pasture consisting of velvet grass and Allegheny flyback. Other forage species include orchard grass, bluegrass, sweet vernal grass, fescue, timothy, white clover, and red clover. Noxious and/or non-native invasive brush is not considered a substantial problem on this allotment. However, as the Forest continues to refine its draft list of non-native invasive species, some herbaceous plant species that in the past were typically considered to serve as forage for livestock and wildlife are being placed on the Forest's draft list of non-native invasive species. Examples of these include crown vetch, Kentucky 31 fescue, tall fescue, and Kentucky bluegrass.

The Queens Allotment is a gently sloping to level allotment. The elevation is approximately 1820 feet. It lies along the east side of the Shaver's Fork River south of Parsons, WV. There is a wooded corridor between the river's banks and the allotment fence. The area contains a wetland that had been ditched and drained prior to National Forest ownership. A small part of the allotment presently lies within the floodplain of the Shaver's Fork. There is also one seep and associated riparian area that heads up inside the allotment and that flows to the Shaver's Fork. Forage includes big bluestem, Indian grass, orchard grass, and fescue. Non-native invasive brush such as St. John's wort, barberry, autumn olive, and multi-flora rose occur on the allotment and their control would be beneficial.

The Callison/Clark Tract is a level grazing area. The elevation is approximately 2000 feet. There are no wetlands or riparian areas within the allotment. A pond just outside the area feeds a cement water trough that is bisected by the area's interior fence. Thus, there are two pastures in this grazing area. To the east of the area is the North Fork of Anthony Creek. To the south of the allotment is Anthony Creek. Forage is primarily fescue and orchard grass with some clovers. Multi-flora rose is a major

problem, growing both within the area and around and through the boundary and interior fences. Mowing has kept the multi-flora rose within the allotment to a smaller size (but re-sprouting), while portions of the perimeter of the allotment, where mowing cannot be done due to fences and trees, contain a high, dense wall of mature multi-flora rose bushes. Fence maintenance is nearly impossible in these areas. Other weeds on the area presenting a less important problem include bush honeysuckle, autumn olive, and thistle.

Table 1. Additional information about the four proposed project areas.

	<b>Rimel</b>	<b>Allegheny Battlefield</b>	<b>Queens</b>	<b>Callison/Clark Tract</b>
<b>Acres</b>	28	168	50, includes 10 ac. of wetland, ecotone and riparian	33
<b>Mngt. Presc.</b>	6.1	6.1	6.1	6.1
<b>Animal Units* Grazed</b>	10	25	0, vacant for several years, previously grazed 12-20 head.	10, vacant in 2003
<b>Grazing Season Permitted in the Past</b>	May 15-Oct 15	May 15-Oct 15	May 1-Oct 31	May 1-Oct 31
<b>Ranger District</b>	Marlinton-White Sulphur	Greenbrier	Cheat-Potomac	Marlinton- White Sulphur
<b>County</b>	Pocahontas	Pocahontas	Tucker/Randolph	Greenbrier
<b>Present Grazing System</b>	Rotational, 2 Pasture	Continuous	Continuous	Continuous
<b>Comments</b>	A Demonstration Area – Riparian area is fenced out	Part of a Civil War Battlefield –Needs to be kept open to maintain historic characteristics	Potential for wetland restoration	No riparian areas within it, level

\* An animal unit is one mature cow with or without a nursing calf (less than 6 months old), or one bull, one yearling, one steer, or one horse/mule/burro/donkey.

All grazing on the Monongahela National Forest is seasonal. Grazing is generally permitted May 15 through October 15. At low elevations grazing may be permitted a few weeks earlier due to earlier vegetation growth.

## **Purpose & Need for Action**

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Opportunities exist to improve management and associated resources and livestock facilities on the Rimel, Allegheny Battlefield, and Queens Grazing Allotments, as well as on the Callison/Clark Tract Grazing Special Use Permit Area. Taking action responds to the goals and objectives outlined in the Monongahela National Forest Land and Resource Management/Forest Plan, and helps move the project areas towards desired conditions described in that Plan (see Forest Plan pages 33, 38, 54, 58-60, 60-63, and 169).

On all four of these areas, structural improvements (such as fences and livestock watering facilities), and non-structural improvements (such as re-seeding; the application of soil supplements, such as lime and fertilizer; and brush control) have deteriorated over years of use, exposure to the elements, low intensity of maintenance and management, and invasion by weeds and brush. There is a need to make major repairs to, or to reconstruct, some of these structural improvements. For example, good fences are needed to contain livestock within the allotment, to reduce impacts from grazing to sensitive areas such as riparian areas and wetlands, and to prevent trespass of livestock to adjacent National Forest and private lands. Water for livestock and wildlife to drink is essential. Ideally, livestock watering would take place from developed watering facilities such as water troughs or fenced ponds, as opposed to unfenced creeks, wetlands or springs. Soils on these areas and their resulting vegetation would benefit from reseeded and from the addition of soil amendments/supplements, such as lime and/or fertilizer. Several species of desirable grasses and legumes have declined over time. Just as residential lawns need reseeding at intervals, pasture reseeding helps to maintain important forage species for use by wildlife, as well as by livestock. Liming of soils increases soil pH, or reduces soil acidity. This favors the growth of legumes and other beneficial vegetation. Increasing soil pH also allows the release of existing nutrients within the soil for uptake by plants and indirectly acts to increase fertility of the limed area. Plants grow more vigorously and are more nutritious when growing in more fertile and near neutral (pH 7) soils. Legumes, such as clovers, are high in protein and are especially nutritious to wildlife and livestock for general health, growth, milk production for nursing young, and for healthier offspring. Weeds and woody vegetation have invaded these areas and require selective control. Weeds and brush compete with other more preferred vegetation for limited soil moisture, sunlight, and nutrients. They shade out herbaceous vegetation and spread to adjacent areas. Some of these weeds are poisonous, noxious, non-native, and/or invasive.

On the Rimel Grazing Allotment, Cockran Creek flows through the allotment. Through a cooperative agreement between the Greenbrier Valley Soil Conservation District, the Natural Resources Conservation Service and the Monongahela National Forest, this allotment has been designated as a rangeland demonstration area. To demonstrate good grazing practices to the public, rotational grazing and fenced ponds with watering access ramps have been installed. Also, the riparian area of Cockran Creek has been fenced out from grazing. However, since that time, this riparian area has been invaded by a large number of multi-flora rose bushes. The proliferation of this

state-listed noxious weed within this riparian area reduces the value and use of this demonstration area for public field trips. Agencies are reluctant to showcase and private landowners are reluctant to incorporate riparian fencing on their properties when they observe a noxious weed and seed source taking over this protected area. Demonstrating that a noxious weed invasion within a protected streamside zone can be effectively controlled with the proper use of an herbicide (approved for use near flowing water) would be instrumental in promoting and exhibiting good land management techniques to private landowners. The numerous, large multi-flora rose clumps are an annual source of seeds that helps spread this aggressive, non-native plant to other portions of the allotment and the surrounding public and private lands. There is a need to control multi-flora rose both in the riparian zone and around and inside the allotment.

The Allegheny Battlefield Allotment makes up part of an historic Civil War battlefield. Past and present Forest Archeologists have felt it is very important to continue to use livestock grazing as a tool to slow the rate of tree and brush invasion on this area and to maintain this portion of the battlefield in a pastoral condition to maintain the area's character as it likely appeared at the time of the battle.

Currently the Allegheny Battlefield Allotment only has one developed livestock watering facility. The allotment is relatively long and narrow. Usually, the farther the distance from a livestock watering source the less grazing occurs. The addition of a livestock watering facility on the western one third of the allotment and another on the eastern one third of the allotment would improve livestock distribution and forage utilization over the allotment. Development of livestock water on the western one third of the allotment would allow implementation of a rotational grazing system on the allotment.

Portions of the roads leading to and within the Allegheny Battlefield Allotment are open to the public year-round and are rutted or contain mud holes. Water runs down these ruts causing soil movement, and is further damaging these roads. There is a need to drain mud holes, to place gravel in spots, to install water bars, and to grade portions of these roads.

The Queens Allotment contains an approximately ten acre wetland area that prior to Forest Service ownership had been ditched and drained. To avoid possible adverse effects to this wetland from livestock grazing, this allotment has purposely not been grazed since 1993. The West Virginia DNR through mowing every few years has maintained most of the allotment in an herbaceous condition. There is great potential to restore this wetland. Through partnerships or grants with other groups such as the WV DNR, Ducks Unlimited, the Ted Turner Foundation, the North American Wetlands Conservation Council, the National Forest Foundation, and/or the National Fish and Wildlife Foundation, the two drainage ditches that presently drain the wetland could be plugged. The wetland, the two associated spring-seep /riparian areas flowing into the wetland, as well as the two channels leading from the wetland to the nearby Shaver's Fork River could be fenced out. The linear earthen (spoil) mound that runs through the length of the wetland from when the wetland was drained could be placed back into the ditch from where it came. This would reestablish lateral movement of water in the wetland and would restore the wetland toward its former type.

The original boundary fence of the Queens Allotment included a small portion of the riparian zone of the Shavers Fork River in the southwestern corner of the allotment. During the flood of 1996 the boundary fence along this part of the allotment was washed out. There is an opportunity to relocate this portion of the boundary fence by constructing a new fence along the terrace above the riparian zone. This would remove the Shavers Fork riparian zone from the allotment, reduce effects of

livestock use to this riparian area, and reduce the chances of a portion of the allotment fence from being washed out during future flooding of the Shavers Fork.

If the wetland and associated drainage ditches and seeps/riparian zones within the Queens Allotment are fenced out, there would be a need for a new livestock watering facility within the allotment. There is an opportunity to use one of the several small springs that flow into the wetland as an alternate source of water for livestock.

While the Queens Allotment was still actively being grazed, and later after the allotment was vacant, a few local individuals began holding family reunions and/or family/group camping inside the allotment. This usually occurred on major holidays such as Memorial Day, the Fourth of July, and Labor Day. This allotment has not been designed as a group/reunion camping area. There are resource concerns if large numbers of people use this area without proper facilities. Normally, groups of over 75 individuals are required to obtain a special use permit prior to their gathering on National Forest lands. There is a public safety concern if groups use the allotment while livestock are in the allotment. Another public safety concern is that in order to access the part of the allotment where the group camping takes place (nearest to the Shavers Fork) one must cross an old, narrow, wooden bridge that spans one of the ditches that drains the wetland. This bridge is not inspected and maintained for use by public vehicles, including heavier pick ups with slide in campers, or pull behind campers. This bridge was not constructed for such use. The group camping, along with the associated vehicle, tent, and camping trailer use, odors and noise, disturbs wildlife and reduces use of the area by wildlife. Therefore, group/reunion type camping within the allotment should be restricted and enforced.

The Callison/Clark Tract Grazing Special Use Permit Area contains numerous large multi-flora rose bushes growing amongst and adjacent to much of the boundary and interior fence. Due to this plant's thorny canes, maintaining these portions of the pasture fences is nearly impossible. There is an urgent need to control this nuisance plant from growing amongst the fences so that fence repairs or replacement can be carried out. Due to the close proximity of this prolific seed source, open portions of the allotment also contain multi-flora rose bushes. Due to past mowing activities these bushes are smaller, but they are also in need of control. Because multi-flora rose readily sprouts back and is not killed from hand or mechanical cutting, the most effective long-term control of this plant is through application of an approved herbicide.

The existing cement water trough on the Clark Tract is very old and broken. The metal fitting in the bottom of the tank where the overflow pipe screws in is rusted and cannot be replaced. Therefore, the trough does not have a functioning water overflow. The overflow hole has purposely been plugged so the trough continues to hold water. Water is flowing over the side of the tank. This is causing standing water and mud around the tank. There is a need to replace this old water trough with a new one that operates properly and does not overflow.

A small portion of the boundary fence in the southeast portion of the Clark Tract receives damage by high water when the nearby Anthony Creek flows out of its banks. Vegetation and woody debris catches on the posts and wire, and in combination with the rapidly flowing water, breaks fence wires, or bends, breaks or repositions fence posts. There is a need to move this section of fence farther back from the creek to eliminate reoccurring flood damage. Doing so would also provide a wider vegetative buffer between the pasture boundary fence and Anthony creek .

The Monongahela National Forest Land Management Plan directs that grazing special use permits be converted to grazing allotments. Allotments can be advertised under competitive bidding and can

be permitted to the highest bidder. Compared to grazing special use permits, where the annual grazing fee is calculated, allotments provide greater revenue to the Federal Treasury from higher grazing fees through competitive bidding. In addition, improvement work on an allotment can be conducted through fee credit agreements, while fee credit work cannot be carried out on pasture special use permit areas. There is an opportunity to convert the Callison/Clark Tract grazing special use permit area to a grazing allotment.

## THE PROPOSED ACTION

The action proposed by the Forest Service to meet the purpose and need is:

### **For All Four Areas**

- Continue to use livestock grazing as a vegetation management tool to assist in maintaining these areas in a relatively open, non-forested, herbaceous condition;
  - a. To provide an important habitat type for selected wildlife species.
  - b. To support the local farming economy and farmers.
  - c. To provide visual/scenic diversity, vistas, and maintain the character of the rural landscapes on the National Forest
- Maintain/repair and/or reconstruct/replace structural improvements, such as fences, corrals, and watering facilities, as needed. In most instances, in the same location where they occur now.
- To improve soil productivity and vegetation types, apply lime and/or fertilizer to selected portions of these areas based on soil test results. Reseed grasses and legumes, usually through frost seeding. Use native species of vegetation as much as feasible. [Frost seeding is the application of seeds to the soil surface during late winter/early spring when snow is off the ground and freezing nights and warm days heaves and cracks the soil surface. Seeds are worked into the soil surface for germination without mechanical seed bed preparation.]
- Use an EPA registered and approved herbicide according to label directions and supervised by a certified pesticide applicator to control noxious, non-native, invasive, or poisonous brush and weeds, such as multi-flora rose, various thistle species, autumn olive, St. John's wort, bush honeysuckles (e.g. Japanese, Amur, Morrow and Tartarian), Japanese privet, teasel, and other undesirable encroaching woody vegetation, within and growing in and over the fence lines of these areas. More than one application may be needed. Only individual stem/foliar treatments or spot applications would be made.
- Mow, chainsaw lop, or use hand tools as needed to selectively control weed and brush invasion.

## **For the Rimel Allotment**

- Use an EPA approved herbicide for use near water to control the numerous, large multi-flora rose bushes growing within the fenced out riparian area of Cockran Creek. Also treat the multi-flora rose bushes growing within the allotment pastures and within 10 feet of the perimeter of the allotment.
- Initially, permit the grazing of 10 animal units from approximately May 1<sup>st</sup> to Oct 1<sup>st</sup>. Exact put on and take off dates would depend on readiness or condition of the vegetation. Rotate pastures when average forage height decreases to approximately 3 inches. Strive to rest a pasture at least three weeks before grazing again. Alternate which pasture is entered first each year. Adjust livestock numbers as management practices, such as weed and/or brush control, liming, fertilization, and reseeding is completed, and as grazing capacity improves.

## **For the Allegheny Battlefield Allotment**

- Repair portions of the road system leading to and within the allotment by grading, draining, spot graveling, and water barring, as needed.
- Develop two new livestock watering facilities.
  - o One would be in the western portion of the allotment. It would be a small pond constructed in a no-channel, ephemeral drain. This pond would be fed by surface runoff. The pond would be fenced and a graveled lane down to the pond would be provided to allow livestock to drink.
  - o The other would be in the eastern portion of the allotment. This would be a spring development with either a spring box or a headwall. Water lines from the spring development to a new trough and from the trough back to the riparian area of the spring would be installed. The area around the trough would be hardened with gravel and the two close-by springs would be fenced out.
- After a reliable water source is developed in the western portion of the allotment the allotment would be converted to a two pasture rotational grazing system. A short amount of new interior fence, and a gate, would be constructed where the allotment narrows down, near the present main entrance gate/cattle guard.
- After installing the spring development on the east side of the allotment, monitor stream channel and riparian area conditions of the wooded drain in the eastern portion of the allotment. If livestock grazing causes adverse effects to the channel and riparian area, fence this area to prohibit livestock access.

- Initially, permit the grazing of 20 animal units from approximately May 15th to October 1<sup>st</sup>. This is a high elevation allotment. Exact put on and take off dates would depend on readiness or condition of the vegetation. Adjust livestock numbers as management practices, such as rotational grazing, liming, fertilizing, and reseeding are implemented, and as grazing capacity increases.

### **For the Queens Allotment**

- Restore the wetland. Plug a section of the two drainage ditches that presently drain the wetland with soil containing clay. On the southern drainage ditch that drains the wetland, install a culvert in the earthen plug to allow excess water from the wetland to drain into the Shavers Fork. Rip rap should be placed below the culvert outlet to prevent back washing of the earthen plug. Fence out the wetland, the associated spring-seep/riparian areas flowing into the wetland, and the two ditches leading from the wetland to the Shaver's Fork River. The linear earthen/spoil mound that runs through the length of the wetland from when the wetland was drained would be placed back into the adjacent parallel ditch from where it came.
- Exclude from the allotment the small southwest portion that is presently within the floodplain/riparian zone of the Shaver's Fork River. Construct a new section of allotment boundary fence along the terrace above the floodplain/riparian zone.
- Fence out the spring and riparian area in the northern portion of the allotment.
- Develop a new livestock water source by constructing either a spring box over, or a headwall below, the southeast spring that feeds the wetland. Install a water line from the spring development to a new water trough located on an upland area nearby. Install an overflow line from the trough back to the riparian area. Harden the area around the trough with gravel.
- Restrict group/reunion type camping within the allotment.
- Initially, permit the grazing of 8 animal units from approximately May 1<sup>st</sup> to October 1<sup>st</sup>. Exact put on and take off dates would depend on readiness or condition of the vegetation. Adjust livestock numbers as implementation of approved management practices and improvements increases grazing capacity.

### **For the Callison/Clark Tract grazing special use permit area**

- Convert this grazing special use permit area to a grazing allotment.



- Reconstruct the existing interior fence presently in disrepair to allow for two pasture rotational grazing. Install two new gates in the interior fence.
- Replace the old, existing cement water trough that straddles the interior fence line with a new water trough. Construct a ditch from the base of the trough out into the pasture to drain water from around the trough area. Remove the old trough. Add fill material to the old trough site to level the area and to reduce standing water. Clear the multi-flora rose and other woody vegetation from the vicinity of the trough. Harden the area around the new trough with gravel.
- Remove the old cattle guard at the end of the road within the allotment near Anthony Creek at the no longer used low water crossing.
- Add fill material to a mud hole where the road within the allotment goes through the allotment's interior fence line.
- Relocate a portion of the perimeter fence in the southwest portion of the pasture that runs along Anthony Creek. Move this section of the fence farther back from the creek so it is less likely to be damaged by future flooding.
- Clean out the cattle guard at the main gate to the allotment. Clean up litter and remove brush from this area.
- Initially, permit the grazing of 10 animal units from approximately May 1<sup>st</sup> to October 1<sup>st</sup>. Exact put on and take off dates would depend on readiness or condition of the vegetation. Adjust livestock numbers as management, such as, conversion from continuous to rotational grazing, liming, top seeding, noxious weed and brush control, is completed, and as grazing capacity increases.

Completion of any of the above-proposed work is subject to available funding.

## **Decision Framework**

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Given the purpose and need, the deciding official, in this case, the Forest Supervisor, reviews the Proposed Action and the other alternatives in order to make the following decisions:

1. Whether to select the Proposed Action or one of the other alternatives.
2. Determine if the selected alternative complies with the Forest Plan, as amended?
3. Determine if the selected alternative protects threatened and endangered species and their habitat?
4. Determine if the selected alternative protects archeological and cultural resource sites?
5. Determine if the selected alternative avoids substantial adverse effects to other resources such as wilderness and wetlands?

6. Determine whether the selected alternative would have significant impacts on the quality of the human environment and an Environmental Impact Statement needs to be prepared, or whether no significant impacts are expected, and therefore, a "Finding of No Significant Impact" needs to be prepared.

The decision will be documented in a Decision Notice.

## **Public Involvement**

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The project was listed in the Forest's Schedule of Proposed Actions (SOPA) in the March, June, and October, 2002 issues, and in the February, May, August, and December 2003 issues. The SOPA is available on the MNF web site, as well as mailed out to those who have requested receiving a hard copy of this document.

The Proposed Action was provided to the public and other organizations and agencies for review and comment during scoping, June 28 through July 31, 2002. A copy of the scoping notice was mailed to 88 individuals or organizations believed to have an interest in the proposed project. In addition, as part of the public involvement process, the agency posted the scoping notice on the Monongahela National Forest website under the planning section. A public notice of a summary of the proposed action was also placed in the legal sections of the Pocahontas Times on July 11, 2002; the (Beckley) Register-Herald on July 9, 2002, the Parsons Advocate, on July 10, 2002, and the Elkins Inter-Mountain on July 6, 2002).

Using the comments received from the public, other agencies, and Forest employees, the interdisciplinary team developed a list of issues to address.

## **Issues**

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The Forest Service separated the issues into two groups. (1) Substantial issues to be addressed in detail by developing an alternative to explore the concern, and (2) non-substantial issues that will not be addressed in detail because they were either outside the scope of the Proposed Action, already decided by law, regulation, Forest Plan, or other higher level decision, minor or irrelevant to the decision to be made, or conjectural and not supported by scientific or factual evidence.

The Council for Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)...". A list of non-significant issues and reasons regarding their categorization as non-significant may be found in Appendix A.

Concerning significant issues, the Forest Service identified one raised during scoping. This issue is:

1. Use of an herbicide to control non-native, invasive, noxious weeds/brush.

One organization opposed the proposal to use herbicide to control noxious and/or non-native, invasive weeds/brush.

To address this concern an alternative has been developed and analyzed in this document that would not use herbicide to control noxious, non-native, invasive weeds/brush.

## **Chapter 2**

### **DESCRIPTION OF ALTERNATIVES**

This chapter describes and compares the alternatives considered for the project. It includes a description of each alternative considered. This section also presents the alternatives in comparative form, discussing the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social, and economic effects of implementing each alternative.

## **Alternatives Analyzed In Detail** \_\_\_\_\_

### **No Action**

Under the No Action Alternative livestock grazing would continue to be permitted and occur in the Rimel, Allegheny Battlefield, and Callison/Clark Tract areas. Grazing in the Queens Allotment would not be re-initiated because under this alternative the wetland and riparian areas in the Queens Allotment would not be fenced. As it has demonstrated in the past, the Forest prefers not to allow grazing if the wetland is not protected. For the other three grazing areas, normal maintenance/repair of existing facilities, such as fences, gates and corals would continue, but no new facilities such as new interior fences to implement rotational grazing, or new watering facilities, would be constructed. Some encroaching woody brush and noxious weeds would still get cut through normal maintenance activities by mowing or hand tools, but herbicides would not be used to control noxious/non-native invasive weeds or brush. The additions of lime and fertilizer would not occur.

For the Rimel Allotment, the numerous, large multi-flora rose bushes growing within the fenced-out riparian area along Cochran Creek would not be treated with herbicide. Other noxious weeds within the allotment pastures may get mowed or cut, but would not be sprayed with an herbicide. Noxious brush growing in the fence lines, or within 10 feet of the outside of the allotment boundary fence, would also not be cut or sprayed and would not be controlled.

For the Allegheny Battlefield Allotment, two new livestock watering facilities would not be constructed. Two, near to each other, springs would not get fenced out. A new interior fence would not be constructed. Rotational grazing would not be implemented.

For the Queens Allotment, the existing wetland would not be fenced out. The riparian area in the eastern part of the allotment would not be fenced out. The riparian area along the Shavers Fork River in the southwest side of the allotment would not be fenced out. Springs and riparian areas that feed the wetland would not be fenced out. A drainage ditch that runs through the wetland would not be re-filled, and the two drainage ditches that drain the wetland into the Shavers Fork would not plugged. A new source of livestock watering would not be created from the spring on the southeast side of the allotment. Enforcement of “No group/reunion type camping inside the allotment” may

not occur. Since the wetland would not be protected from grazing the allotment would be abandoned as a grazing area. However, due to the interest in this area as an opening for wildlife, the area would still continue to be maintained in an open, non-forest condition by other means such as mowing and/or chainsaw lopping of encroaching woody vegetation.

For the Callison/Clark Tract Grazing Special Use Permit Area the interior fence would not be reconstructed and two new gates would not be installed in the interior fence. Rotational grazing would not be implemented. The existing broken water trough would still be replaced under normal maintenance activities, but a ditch to drain water from around the base of the trough would not be completed. A portion of the area's boundary fence would not be relocated farther back off Anthony Creek and would continue to be susceptible to flood damage. This pasture would still be converted from a grazing special use permit area to a grazing allotment.

Based on this analysis, if this alternative is selected as the Preferred Alternative for implementation, it would be consistent with the Forest Plan, but it would not move the proposed project areas towards the desired future condition as directed in the Forest Plan. This alternative would not meet the purpose and need and may not be consistent with State and local environmental protection laws, regulations and ordinances, or with Forest Service Handbook and Manual direction.

## **The Proposed Action**

For a detailed explanation of this alternative, see the section on "The Proposed Action" on pages 9-12.

Much of the work proposed in this alternative is maintenance of existing facilities. New work proposed includes such activities as fencing out riparian areas or a wetland, restoring a wetland, applying soil supplements, seeding, providing additional watering facilities, and controlling noxious/non-native invasive weeds through use of an approved herbicide.

Also see the appendices for maps of the existing condition of the four project areas.

Based on this analysis, if this alternative is selected as the Preferred Alternative for implementation, it would be consistent with the Forest Plan. It would also move the proposed project areas towards the desired future condition as directed in the Forest Plan and it would meet the purpose and need. It would also be consistent with State and local environmental protection laws, regulations and ordinances, and with Forest Service Handbook and Manual direction.

## **No Herbicide Use**

This alternative addresses the issue/concern that an EPA approved herbicide would be selectively applied under the supervision of a certified pesticide applicator to non-native invasive/noxious weeds and/or brush within and closely adjacent to the four project areas. In this alternative all proposed work as stated in the Proposed Action would still be conducted except that no herbicides would be used on any of the four project areas. Only cutting of non-native, invasive/noxious weeds and brush through such techniques as tractor brush hogging/mowing, chainsaw lopping, or cutting with hand tools would be allowed.

Based on this analysis, if this alternative is selected as the Preferred Alternative for implementation, it would be consistent with the Forest Plan. In many respects it would move the proposed project areas towards the desired future condition as directed in the Forest Plan. However, current legislative and regulatory direction relating to noxious/non-native invasive weeds would not be met. Without the use of herbicide to control the existing noxious/non-native weeds in the project areas, there would be long term decreases in productivity of native and/or preferred vegetation, wildlife and wildlife habitat, and grazing lands/forage, and these weeds would continue to proliferate. This alternative would not meet the purpose and need. It may not be consistent with State and local environmental protection laws, regulations, and ordinances, or with Forest Service Handbook and Manual direction.

### **Alternatives Considered But Not Brought Forward For Detailed Study.**

1. The use of prescribed fire was considered as a possible way to control noxious weeds/brush on these project areas. It was determined that this method would not be feasible. The project areas contain mostly cool season grasses. These grasses green up early in the spring and stay green through the first few hard frosts in the fall. They are difficult to burn at any time of year. In addition, since the areas are grazed, there are usually not sufficient quantities of fine fuels available to carry a hot enough fire across the areas to burn the base of such woody plants as multi-flora rose or autumn olive with enough heat to kill the aboveground stems. And as with cutting, even if the above ground stems were killed by fire, they would sprout back since the fire would not affect the plant's root systems. In areas where noxious weeds grow in fence lines, the fires would need to burn through the areas containing fences to control these plants. This would burn up some of the wooden fence posts and affect the strength and protective coatings on the fence wires. To control noxious weeds growing in fence lines, fire lines to contain the burn would need to be constructed outside the allotment boundary fences. This is usually not desirable or possible since these areas are either wooded, private property, or close to creeks or riparian areas, which could lead to damage to these areas.

2. As an alternative to using cutting or herbicides to control noxious weeds/non-native invasive weeds, the use of biological control agents was also investigated. Unfortunately, biological control agents, such as viruses, fungi, parasitic insects, or other pathogens that attack specific plants, have not been developed for all species of noxious weeds. The use of livestock to graze upon or trample weeds is in itself a type of biological control.

For multi-flora rose, the primary noxious weed on these project areas, there are three biological control agents that show potential for its control.

The first is a virus called rose rosette disease (RRD), which is transmitted by a mite. RRD is already found in all counties in WV. However, the rate of spread of RRD to multi-flora rose bushes is occurring much more slowly than originally hoped. It is now believed that several natural predators of this mite are slowing the spread of RRD.

The second is the rose seed chalcid, a small wasp that lays eggs in and kills developing rose seeds. As of 1987 this wasp had been found in at least 21 of the 55 counties in WV. It has poor ability to fly to other multi-flora rose populations. Most dispersal is thought to be by movement of infested seed by birds. It is estimated it may take 20 or more years for the rose seed chalcid to colonize all parts of the state and all areas containing multi-flora rose.

The third is the rose stem girdler, an insect whose larvae girdles and kills the tips of multi-flora rose canes/branches. Since no infested sites have been found in which more than 12% of canes were affected and large numbers of larvae were found parasitized, it is believed that this insect will only have a minor effect in controlling multi-flora rose.

The first two of these agents hold great promise in the eventual reduction of multi-flora rose in WV and on the Monongahela National Forest. However, it appears that many more years will be needed for these to spread throughout the state and the National Forest and to have a substantial effect on existing populations of multi-flora rose. Because the three known biological control agents of multi-flora rose are already within the state, initiation by the Monongahela National Forest of a biological control program for multi-flora rose does not appear to be a viable alternative in controlling this noxious plant at this time. Due to their environmental impact and continuing spread, a more effective means of controlling noxious weeds on the National Forest beyond simply cutting them needs to begin as soon as feasible. The proposed project areas are identified as sites needing to receive noxious weed control through the aid of an herbicide.

No information has been found on effective biological controls for autumn olive or for bush honeysuckles.

For privets, biological control agents are currently being researched but have not yet been approved.

For St John's wort, five biological control agents have been released in the western United States since the mid forties to control this plant species. One of these species, *Chrysolina quadrigemina*, has been documented from Randolph, Pocahontas, Tucker, Harrison, Preston, Fayette, Greenbrier and Nicholas counties. Another species, *Chrysolina hyperici*, has not been recorded in West Virginia or any neighboring states. The other three biological control agents for St. John's wort, *Agilus hyperici*, *Zeuxidiplosis giardi*, and *Aplocera plagiata*, also have not been recorded from West Virginia. Hopefully, as time passes these four other biological control agents of Saint John's wort will pioneer into the state and the MNF and begin influencing Saint John's wort populations.

Biological control agents for various species of non-native thistles have been developed. However, it has been found that some of these agents also attack and substantially reduce seed set and reproduction in untargeted native species of thistles, some of which are rare. Therefore, the use of biological control agents to control non-native thistles on these grazing areas is not recommended at this time.

Many biological control agents are themselves non-native introductions and may carry non-native parasites that could become established in the control area and could then spread to other places, thus causing additional problems to the environment.

## **Mitigation Measures**

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To reduce potential negative impacts or concerns of proposed work, the following mitigation measures have been developed. They will be applied to project implementation, as applicable. If the No Action or the No Herbicide Use Alternative is selected by the Decision Maker, mitigation measures in item 7 below would not apply.

1. In all project areas, in places that are steep (> 30 degrees) and/or rocky (surface rocks sufficient to prevent safe operation of farm tractors), such as along riparian areas or on hillsides, retain all hawthorn trees and other soft or hard mast tree species that are considered beneficial to wildlife for food. On more level places, where mechanical equipment such as tractors and mowers can operate, retain all hawthorn and other soft or hard mast tree species considered beneficial for wildlife over 2 inches dbh (diameter at breast height). This will not apply to non-native, invasive soft mast producing shrubs such as multi-flora rose or autumn olive that are considered noxious weeds that should be controlled.
2. In all project areas, leave the large trees for livestock shade, wildlife habitat, and visual quality.
3. In all project areas, leave the domestic fruit trees, such as apple trees or pear trees.
4. Liming will always be done before fertilizers are applied, unless soil testing indicates that the soil pH is above 5.5. Soil supplements will normally only be applied to relatively level areas where they can be applied with trucks or tractors. Lime and fertilizers will not be applied within 25 feet of water courses, both permanent and intermittent. Before soil supplements are applied to an allotment, facilities such as fences and watering sources would first need to be in acceptable condition. Otherwise, funding planned for use on application of soil supplements should be used for attaining acceptable facilities first.
5. If soil material with a high clay content, for use to plug the two drainage ditches that drain the Queens wetland, is to be taken from National Forest land, assessments or surveys for cultural resources and threatened, endangered and sensitive plant and animal species will be completed before removal of the material.
6. Prior to the selection of the exact location for the proposed livestock watering pond in the western end of the Allegheny Battlefield Allotment, and prior to selection of the exact location for the proposed new interior fence and gate at the Allegheny Battlefield Allotment, the person(s) involved in project layout will consult with the Forest Archeologist. This would ensure that recorded cultural resource sites within this allotment will not be disturbed.
7. If the decision is made that the herbicide Rodeo (glyphosate) will be used to control noxious/non-native invasive weeds, the following mitigation measures will be used during herbicide applications:
  - a. The herbicide will not be applied aerially. Only low volume backpack sprayers or sprayers mounted on trucks, ATV's, or trailers will be used.
  - b. To reduce drift, spray equipment will be calibrated to emit a droplet size greater than 200 microns.
  - c. Herbicide application will be under the supervision of a certified applicator.
  - d. Areas treated will be signed to identify the material used and the date of application.
  - e. To help keep track of plants treated and to reduce the chance that the same target plant will be treated more than once, one half ounce or less of Bullseye blue spray pattern indicator/colorant will be added per gallon of spray mixture.
  - f. Spraying will not be done if winds exceed 10 mph, or if heavy rain is expected within 2 hours.
  - g. To reduce exposing the applicator(s) to spray contact, a step stool/ladder will be used to apply the herbicide to the tops of vegetation over 10 feet high.

- h. All label directions will be followed.
- i. Applicators will wear a long sleeved shirt and long pants (both required by the label). Other protective equipment not required to be worn by the label, but which will be required to be worn by Forest Service employee(s) or contractor(s) applying herbicide include: boots, a hard hat with a plastic liner, rubber or nitrile gloves, and safety goggles or a face shield. Clean clothing will be worn everyday. Upon coming home after work, applicators should shower and change clothes. Clean wash water, soap, and towels will be available for the crew. Eyewash bottles and a change of clothing will be available at the job site in the case of personal contamination. Applicators should wash their hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- j. Rodeo should not be mixed, stored, or applied with galvanized steel or unlined steel (except stainless steel) containers or spray tanks.
- k. Project areas will be monitored the same growing season after initial treatment to determine how effective the treatment has been. The areas will also be monitored the following growing season after initial treatment to determine if a 2<sup>nd</sup> (follow up) treatment is necessary.
- l. Because non-ionic surfactants, as recommended by the Rodeo label to be added to Rodeo sprays, are not known to be approved for aquatic use, Rodeo sprays used to treat noxious/non-native invasive weeds that are growing within 50 feet of surface waters, such as Cochran Creek or the wetland in the Queens Allotment, will not contain a surfactant. The Forest Plan, page 59, also states that “Unless specifically registered for aquatic weed control, no herbicide will be applied within 50 feet of free water or sink holes in cavernous limestone areas”. Although a surfactant is technically not an herbicide, if label recommendations are followed, a surfactant would be a part of the herbicide spray mixture. It is not mandatory that a surfactant be used with Rodeo and not using a surfactant with Rodeo does not violate label directions. However, the use of a surfactant with Rodeo does increase the effectiveness of the herbicide. Areas treated with a Rodeo spray not containing a surfactant may require more herbicide applications to obtain satisfactory control of target plants, compared to areas treated were the herbicide spray that does contains a surfactant. When spraying noxious/non-native invasive species growing along or hanging over the banks of Cochran Creek, or other surface waters, the applicator should direct the spray away from the water. This may require the applicator to stand in the water and spray from the water and toward land. These measures should minimize any potential adverse impacts from surfactants and herbicides to surface waters.

8. Any seeding to be done on these project areas, such as top seeding, frost seeding, seeding for erosion control, or to re-vegetate disturbed areas, should strive to use native or naturalized grasses and legumes that are also considered good forage for livestock and wildlife.

Recommended species include:

Native Warm season grasses

Switch grass

Little bluestem

Big bluestem

Indian grass

Side oats grama (eastern variety)

Blue grama

Sand love grass



Eastern gama grass

Native cool season grasses

Canadian wild rye

Bottlebrush grass

River bank wild rye

Silky wild rye

Virginia wild rye

Naturalized grasses

Meadow foxtail

Perennial rye grass

Legumes (native or naturalized)

Partridge pea

Round headed bush clover

White Dutch clover

Flat pea

Any annuals, such as oats, rye, winter wheat, annual rye grass, etc. may also be used in seed mixes as a nurse crop and/or to further improve soil stabilization success.

9. Any mulching that will be done in conjunction with the seeding of disturbed areas will use straw or other weed free organic material as mulch. To reduce the chances of bringing new weed seeds into these grazing areas, pasture hay will not be used as mulch.

10. Any vehicle operation in wetlands, such as during the proposed filling in of the drainage ditch that drains the wetland at the Queens Allotment, can cause rutting and compaction of soils if done during wet periods. To minimize this potential effect, this work will be done during the driest times of the year with low pounds per square inch (psi) equipment. Also, to further minimize wet working conditions in the wetland, prior to backfilling the drainage ditch that drains the area, the two ditches that drain the wetland to the Shavers Fork River will not be plugged until after the drainage ditch work has been completed.

## **Comparison of Alternatives** \_\_\_\_\_

This section provides a summary of implementing each alternative. Information in Table 2 below is focused on activities. Table 3 is focused on effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2. Summary of activities by alternative.

Activity	No Action	Proposed Action	No Herbicide Use
Seasonal Grazing	YES (except Queens)	YES	YES
Maintain structural improvements	YES (except Queens)	YES	YES
Use a Herbicide to control NNIS/weeds	NO	YES	NO
Fence and restore the Queens Wetland and protect it from OHV/ATV damage	NO	YES	YES
Fence Queens Riparian Areas	NO	YES	YES
Create New Watering Facilities	NO	YES (3)	YES (3)
Relocate Portions of Boundary Fences	NO	YES	YES
Apply lime, fertilizer and seed	NO	YES	YES
Cut/mow weeds and brush	YES	YES	YES
Maintain roads	NO	YES	YES
Convert to rotational grazing (ABA and CCT only*)	NO	YES	YES
Enforce no group/reunion camping in Queens	LESS LIKELY	YES	YES
Optimize grazing fees to the Federal Treasury	NO	YES	YES

\* ABA = Allegheny Battlefield Allotment, CCT = Callison/Clark Tract

Table 3. Summary of Effects By Alternative

Effect	No Action	Proposed Action	No Herbicide Use
Reduce sediments to streams and/or wetlands	Yes	Yes	Yes
Reduce nutrients to streams and wetlands	Yes	Yes	Yes
Reduce noxious weeds in the long term	No	Yes	No
Reduce compaction from livestock to wetlands and riparian areas	Yes	Yes	Yes
Improve herbaceous vegetation through seeding	No	Yes	Yes
Improve vegetation through application of soil supplements	No	Yes	Yes
Protect and restore the Queens wetland	No	Yes	Yes
Improve the Rimel Allotment as a demonstration area	No	Yes	No
Reduce disturbance to wildlife at the Queens Allotment	No	Yes	Yes

Better distribute livestock use	No	Yes	Yes
Improvement to habitat for some Management Indicator Species	No	Yes	Yes
Adverse effects to Threatened and Endangered Species	No	No	No
Protect cultural resources	Yes	Yes	Yes
Consistent with Forest Plan	Yes, but to a lesser degree	Yes	Yes
Maintain the open character of the Civil War Battlefield	Less	More	Less

## **CHAPTER 3**

### **ENVIRONMENTAL EFFECTS**

This section summarizes the potential direct, indirect, and cumulative effects of implementing the various alternatives. The boundaries and timeframes used in the cumulative effects sections vary by the resource being discussed.

#### **Vegetation**

The grazing of livestock on all of these proposed project areas would remove a portion of the vegetative growth/leaf area of herbaceous vegetation that these areas annually produce. Livestock primarily graze on herbaceous vegetation such as grasses and forbs. Wildlife, such as deer, groundhogs and grasshoppers, also feed on and remove vegetation from these areas. Some wildlife species such as deer and rabbits browse rather than graze and consume more woody vegetation, and especially in the winter months. Through consumption of forage and trampling of vegetation livestock grazing changes the height and density of the herbaceous vegetation and creates more diverse cover types and densities. Seasonal grazing as practiced on Monongahela National Forest grazing areas does not kill the vegetation. A portion of the annual growth of selected/preferred vegetation is removed. Less preferred and non- preferred species of vegetation remain, or is grazed to a lesser degree. The removal of a portion of the top growth of selected vegetation by livestock and wildlife actually improves forage quality for livestock and wildlife as the plants re-grow new leaves

in reaction to having been grazed. This new growth is more tender, nutritious and palatable than old senescent vegetation. Preferred forage species are mostly cool season grasses and legumes. These grow best in the spring and the fall when temperatures are lower and moisture is more abundant. Under seasonal grazing these cool season plants have time in the spring, prior to the onset of grazing, and in the fall, after grazing is over, to grow and store energy in their root systems. This allows them to successfully recover and over winter from the removal of a portion of their leaf area during the grazing season. The use of rotational grazing, as presently practiced on the Rimel Allotment, or as proposed for the Allegheny Battlefield and Callison/Clark areas under the Proposed Action and the No Herbicide Use Alternatives, helps further in preventing the loss of selected species of herbaceous vegetation from grazing. This is because livestock are moved back and forth from one pasture to the other allowing vegetation in the un-grazed pasture to re-grow and/or recover from the previous grazing period.

The grazing of vegetation allows more sunlight to reach the soil surface and allows low growing plants such as clovers to obtain more light and grow better. Soil temperatures are warmer, increasing plant root growth and the abundance and activity of soil organisms. However, at the same time, soil moisture is lost at a higher rate due to increased evaporation from higher temperatures and more wind near ground level. Grazing aids in maintaining a diversity of plant species which, in turn, provides a more dependable wildlife food supply. Overall, clovers and other legumes are beneficial to both animals and to the soil. Legumes add nitrogen to the soil through nitrogen fixing bacteria in their root nodules. This nitrogen helps nearby plants grow better. Clovers and other legumes are preferred forages for livestock and for many species of wildlife. The flowers of clover plants feed bees, butterflies, and other insects. If the height and density of herbaceous vegetation is not controlled clovers and other low growing vegetation are shaded out and soon lost from the area. Reducing the height and density of the herbaceous vegetation through grazing has both positive and negative effects to wildlife species, depending on the wildlife species in question. For example, if herbaceous vegetation in an area is too thick and tall, wild turkey and ruffed grouse and their young cannot move through the area to feed on the abundant insects. They are more apt to get lost from each other and get wetter from dew and rain that falls from the overhead leaves of vegetation as they try to move through it. They likely would avoid the area. With grazing, the less dense vegetation allows them to move within the grassy area to feed, but still provides them with some vegetative cover from predators, such as hawks and foxes. Grazed areas also provide small patches of low vegetation, or travel lanes, where they can reduce getting wet from overhead vegetation. Other species of wildlife, such as a meadow vole, may benefit from the extra vegetative cover that an un-grazed area provides because it can move about during daylight hours less visible to predators from above.

Some animals use cow paths as runways. Many grassland birds select sites adjacent to cow paths for nesting. Certain animals use the bare areas around mineral feeders and loafing areas for dusting and sunning.

The National Forest Management Act requires that Forest Plans and management provide for a diversity of plant and animal communities and maintain viable populations of all vertebrate species. To accomplish this, non-forested areas, large and small, as well as forested lands of varying forest types and age-classes, need to be provided. Grazing areas provide the larger areas of non-forest habitat that selected wildlife species need and contain types of vegetation and animal species not normally found in large unbroken tracts of heavily forested area. The MNF Forest Plan (page 166) has a desired future condition/standard and guideline of having 5% of the 6.1 management

prescription, in which these proposed project areas occur, to be non-forested/openings. Grazing allotments assist in meeting this desired future condition and standard and guideline.

The proposed control of noxious and other brush on these areas through mechanical and/or the use of an herbicide would assist in keeping these areas in a primarily herbaceous/non-forested condition. In West Virginia succession from non-forest to forest occurs quite rapidly. Non-forested areas are quickly invaded by woody vegetation from seeds from adjacent wooded areas and are converted to forestland. Grazing can slow woody encroachment to an area through eating and trampling of woody seedlings, by maintaining a thick sod cover on the area by removing some of the tall herbaceous vegetation, and by reducing shade to low growing plants. However, because livestock (primarily cows and horses, not goats or sheep) do not forage much on woody vegetation, grazing by itself cannot prevent forest succession or the encroachment of woody vegetation into a non-woody area.

To maintain an area in a non-forest condition, a combination of activities such as grazing, mechanical cutting, burning, or the application of herbicides must be used. Due to the importance these areas have as habitat for selected wildlife species, and the emphasis in the MNF Forest Plan on managing grazing areas for multiple uses, including wildlife habitat, these areas, even if sufficient funding were available, would never be cleared of all woody vegetation. Proposed brush and noxious weed control will be selective. Like all NF grazing areas, these four areas presently contain either individual large trees, clumps of trees, various types of riparian areas, woodlots, hawthorn thickets or savannahs, hillsides where woody vegetation will not be controlled, or trees in odd/rocky areas. Areas adjacent to the allotments are usually wooded as well.

In the Proposed Action the proposed selective control of noxious brush through mechanical cutting and the use of an herbicide would, compared to cutting alone, as in the No Action Alternative and the No Herbicide Use Alternative, remove some woody vegetation that could be used as perches, nesting sites, or as forage by selected wildlife species, such as songbirds or deer, and over a longer time span. Since noxious weeds such as autumn olive, multi-flora rose, and thistle provide fruits or seeds used as food by selected wildlife species, proposed noxious brush control would reduce the availability of some food sources for selected wildlife species. Under the No Action and No Herbicide Use Alternatives proposed mechanical brush control would also remove perches, nesting sites, forage and soft mast for selected wildlife species, but for a shorter time interval, because this vegetation would sprout back and re-grow after cutting. However, under any alternative, there would still be other species of native woody vegetation on these areas that would not be controlled for various uses by wildlife.

It is concluded that there would be no substantial adverse effects to vegetation from any of the alternatives. Vegetation management activities occurring or proposed on these areas would merely slow forest encroachment. If any activities occurring or proposed on these areas are discontinued these areas would return to a forested condition over time.

For the discussion of the cumulative effects to vegetation the boundary is defined as all counties containing Monongahela National Forest lands between 1920 and 2010.

The Monongahela National Forest presently contains 53 grazing areas (allotments or grazing special use permit areas) containing a total of 7,326 acres. The average size of MNF grazing areas is 141 acres with a range from 18 to 993 acres. These grazing areas are scattered over six counties. Many of these grazing areas contain woodland within their boundary fences. Due to the heavy shade from

overhead trees there is little to no herbaceous vegetation under these wooded areas. These wooded areas within allotment boundary fences are not grazed to the degree that open, grassy areas are. However, selected portions of the edges of these wooded areas are usually used as shaded loafing areas by livestock. As funds are available, as fences need replacement, and as the environmental analysis are completed, the Forest continues to exclude wooded areas and riparian areas from its grazing areas.

The allowable stocking on each National Forest grazing area is continually assessed. If it is determined that repeated overgrazing or other resource damage is occurring, stocking rates are revisited and normally adjusted. Other management actions, such as placing or moving mobile mineral feeders, developing new or better livestock watering facilities, changing from continuous grazing to rotational grazing, etc. are also used to minimize adverse effects to resources within grazing areas. In some instances grazing areas are under-grazed. This leads to faster invasion of the area by woody vegetation and loss of this important non-forest habitat type. In these instances an attempt is made to increase the stocking rate toward what the areas can safely support. The trend and philosophy of the Forest over the years has been to discontinue grazing on areas that are least suited for grazing and to do a better job of managing those grazing areas that are considered more suitable for grazing, while still providing grazing opportunities to the local public.

The counties that contain National Forest grazing areas also contain private lands. Although West Virginia is a heavily wooded state some of this private land has been cleared for pasture, is non-forested, and is used for grazing livestock. Many of these private grazing lands are in relatively flat valley bottoms that are usually suitable for grazing, and are often well managed. Some are not as suitable for grazing or are not as well managed. As people found that they could not make an adequate living on West Virginia hill farms many left those areas that had been cleared for pasture and row crop farming and moved to the cities to earn a living. Many West Virginia farms have been abandoned, or are no longer being managed as pasture and/or cropland, and have been planted back to trees, or are naturally reverting back to forestland. Very rarely does one observe West Virginia woodland being cleared to provide new/additional pastureland in recent times. The MNF does not clear woodland to create new grazing lands. All MNF grazing areas were already non-forest/grazing land before they were acquired. Most impacts to private woodlands are from subdivision and construction of year round residences, vacation home development, and associated road building, roaming cats and dogs, noise, all terrain vehicle (atv) use, odors, fuel wood cutting, timber harvest, etc. New home development does not occur on National Forest lands. There is less farm/pasture land and more forestland in West Virginia now than in the first half of the 1900's. For example, records indicate that between 1956 and 1986 6140 acres of MNF grazing areas were abandoned. More recently, another 2181 acres of MNF grazing areas were discontinued.

The cumulative impact from the grazing of livestock on vegetation on both private and MNF lands is decreasing compared to the past. Overall there are less exposed soils and less soil erosion, less sediment and nutrients entering creeks and streams, and less damage to stream banks from livestock trampling, now, as compared to the past. As these grazing areas have been abandoned and have been reverting back to forestland, or have been planted to trees, more old field and young forest habitat has become available for selected species of wildlife that use such habitats. These areas are less disturbed, both physically from livestock and their management, and by human activity. Not only has this increase in early successional forested habitat benefited some species of forest game animals, but many species of plants, such as blackberries, elderberries, and other species of mast producing shrubs, have also benefited. Many species of neotropical migrant songbirds that use early

seral habitats and that have been declining in West Virginia and throughout the mid-Appalachians have also benefited.

## **Soils**

Potential adverse effects to the soil resource within the proposed project areas from implementation of the various alternatives include:

- a. Compaction and disruption of the hydrological properties of the soil from livestock and vehicle/equipment travel over the project areas
- b. Erosion from surface water traveling down sloping areas that are not adequately protected with vegetation
- c. Depletion of soil nutrients through removal of vegetation through grazing over multiple years

Management practices that are currently in use, or that are proposed for incorporation into the management of these four proposed project areas to minimize adverse effects to soils, include:

- a. rotational grazing (except for the Queens Allotment – due to the lack of a reliable water source in the south end of the allotment)
- b. seasonal grazing
- c. adding lime and fertilizer to maintain soil fertility, if needed (except under the No Action Alternative)
- d. fencing out of the major wetland/riparian areas (except under the No Action Alternative)

The use of these management practices aids to a large degree in reducing potential adverse effects to the soil resource from implementation of the Proposed Action and the No Herbicide Use Alternative.

Compared to the Proposed Action and the No Herbicide Use Alternatives, and because under the No Action Alternative none of the four proposed project areas would be limed or fertilized, implementation of the No Action Alternative would be less beneficial to the soil resource. Not grazing the Queens Allotment and not fencing the Queens wetland and riparian areas, as proposed in the No Action Alternative, would not cause any harm to the soil resource of the Queens Allotment.

### **Compaction and Disruption of the Hydrological Properties of the Soil**

For all alternatives except the No Action Alternative (Queens Allotment only), the standing or walking by livestock, especially when soils are wet, can compact soils and make it more difficult for water to percolate down through them. Compaction may also make it more difficult for plant roots to grow through the soil. However, grazing on National Forest allotments is only seasonal (typically mid May through mid October). The wetting, drying, freezing, and thawing of soils during the fall, winter, and spring months, when livestock are not on the allotments, helps to reverse any compaction that may occur during summer months. The activity of burrowing rodents, earthworms, and other soil microorganisms, such as bacteria and fungi, within these soils also helps to aerate and loosen the soils from compaction as well. The growth of plant roots in the soil also assists in reducing any soil compaction that may occur. As compared to livestock concentration areas, such as feedlots, livestock stocking rates permitted on allotments are relatively low for the size of the area grazed. Except for areas around watering or mineral sources, or where livestock congregate in the heat of the summer for shade, or where livestock trail to such areas, livestock are dispersed across the allotment as they



graze. Seasonal grazing acts to protect the soil from compaction because animals are not on the pastures during the freeze-thaw time of year when the frozen subsoil can act to create perched water tables in the soil profile, restrict internal flow of water, and not allow for free drainage.

Any vehicle operation in wetlands, such as the proposed filling in of the drainage ditch that drains the wetland at the Queens Allotment, as proposed in the Proposed Action or the No Herbicide Use Alternative, can cause rutting and compaction if done during wet periods. To minimize this potential effect, it is proposed that this work be done during the driest times of the year with low psi equipment. Also, to further minimize wet conditions in the wetland prior to backfilling the drainage ditch that drains the wetland, it is proposed that the two ditches that drain the wetland not be plugged until after the drainage ditch is back filled. See mitigation measures.

The use of farm tractors to mow grazing areas or the use of spreader trucks to apply lime and fertilizer could cause rutting and soil compaction if done when soils are wet. However, commercial truckers, contractors, and Forest Service equipment operators avoid driving on wet soils and wet areas within pastures and getting stuck. This should not be a concern.

Under the Proposed Action and the No Herbicide Use Alternative, more wet soil areas would be fenced out and compaction and effects to soil hydrologic properties would be less likely to occur. Restricting group/reunion camping in the Queens Allotment would protect the soil resource from compaction from repeated use of vehicles and camping trailers.

Under the No Action Alternative, because there would be no grazing in the Queens Allotment, there would be no compaction to the soils of this allotment from livestock grazing.

Because management practices and/or mitigation measures, are, or would be, employed it is concluded there would be no substantial adverse effects to soils from compaction from implementation of any of the alternatives.

### **Erosion**

The Rimel and Callison/Clark Tract are level areas. There are no steep areas where soils can wash downhill. The Queens Allotment is mostly level with some gentle slopes. The slopes on the Queens Allotment are on the east side of the allotment, the wetland, and farthest from the Shavers Fork, with ample vegetation between these slopes and the Shavers Fork to catch any moving soil. There is also ample vegetation in and adjacent to the riparian areas and the wetland to trap any sediment that might move from uplands into these areas.

The Allegheny Battlefield Allotment is mostly a ridge top allotment, but it does contain some portions that are sloping ground. All project areas, including the sloping areas they contain, are presently vegetated with grass and/or other herbaceous or shrubby vegetation, or woodland/savanna. Even though these areas have been grazed in the past for many years, there are no slides or slumps. Livestock prefer to use the more level ground as compared to steeper areas. The intent of Forest Service grazing management is to graze an allotment in a manner so that soils are protected and held in place by both above ground vegetation and their below ground roots. If monitoring of an allotment indicates erosion is occurring actions would be taken to reduce the impact livestock grazing was having on these sloping areas. In determining the grazing capacity of an allotment, not only is the size of the area, the quality of forage, and the soil types and their fertility taken into

consideration, but trial and error is also used to help determine or adjust how many animals an area can safely support without causing resource damage, such as soil erosion. Applying soil supplements such as lime and/or fertilizer would increase growth/biomass of both above and belowground portions of plants and further help hold soils in place. Well vegetated grassland protects the soil from water and wind erosion. Increasing soil pH through liming favors the growth of nitrogen fixing legumes, such as clovers, which increases the growth of adjacent plants and further helps to keep soil in place. The use of rotational grazing allows the vegetation time to re-grow before the next grazing interval. The existing vegetation rejuvenates and provides protection from erosive forces.

The proposal to maintain existing roads leading to and within allotments, such as at the Allegheny Battlefield Allotment under the Proposed Action and the No Herbicide Use Alternatives, by spot graveling, water barring, grading, seeding, etc. would be beneficial to the soil resource by reducing the distance and velocity of surface water that flows down sections of roads that are sloping, by filling in ruts that can channel water down roads, by filling in mud holes that can splash water containing soil to adjacent areas when driven through, by stabilizing soils with vegetative cover, and by crowning roads so water runs off to the sides of the road surface rather than down the length of road surface. These actions promote stability of the road, prevent saturation of road material which can result in slippage on the down slope side of the road, and reduce ponding, erosion, and the production of sediment.

Under the No Action Alternative the Allegheny Battlefield Allotment and the Callison/Clark Tract would not be converted from continuous grazing to rotational grazing. Under continuous grazing herbaceous vegetation would not be rested and allowed to re-grow before being grazed again, as it would under rotational grazing. Under continuous grazing, if grazing was excessive, it is possible that individual plants and/or particular species of plants could be lost due to repeated grazing without a recovery period. This could cause bare areas, which could increase erosion during heavy precipitation.

Although most of the Queens Allotment had been mowed in the late 1990's and again in 2002, because the Queens Allotment has not been grazed since 1994 the area has had more vegetation cover and less disturbance from livestock use than the other project areas. It is likely that erosion from this allotment since 1994 has been less than if the area had been seasonally grazed each of those years. Under the Proposed Action and the No Herbicide Use Alternative, wetland and riparian areas in the Queens Allotment would be fenced out and the potential for erosion from bank shearing would be reduced. There would be a vegetative buffer between the fence and surface water to catch any soil that might be moving from the adjacent grazed area. By restricting reunion/group camping in the Queens Allotment there would be less loss of vegetative cover because camping sites would not be mowed with lawnmowers, dug up for fire pits, beaten down by foot and vehicle traffic, compacted, or shaded out by camping trailers, stacks of firewood, tents, camping equipment, etc. Generally, the more vegetative cover an area has the less chance there is for soils to erode and move to water courses.

It is concluded that there would be no substantial adverse effects to soils from erosion from implementation of any of the alternatives. Actions proposed, mitigation measures developed, and management practices presently employed or proposed, all assist in minimizing soil movement.

## **Nutrients**

The grazing of livestock redistributes nutrients around the allotment. Animals consume vegetation in one area and then move to another area to rest/chew their cud, drink, obtain mineral supplements, or to graze, where they deposit urine and dung. More dung and urine may be deposited in the resting and watering areas than in the grazing areas, resulting in a net transfer of nutrients from the grazed area to the resting or watering area. As much as 75% to 95% of the nutrients that a grazing animal eats as herbage and supplements may be returned to the pasture in feces and urine. Through consumption, excretion, and trampling, grazing breaks down vegetation into smaller particles so that organic matter is more available for use by soil bacteria and fungi. These soil microorganisms use the organic matter as an energy source and release nutrients back into the soil for uptake by plants. Some of the nutrients from the grazed area that are taken up by plants that are later consumed by the livestock are removed from the area when livestock are removed from the grazing area. This reduces the total amount of nutrients in the grazed area. Not adding these nutrients back to the grazing area through natural processes, such as precipitation, off site dust and leaf fall, or nitrogen fixation by legumes, such as clover, or through liming and fertilization, can lead to a reduction in nutrients in the grazed area over time. This is why the Proposed Action and the No Herbicide Use Alternatives call for the application of lime and/or fertilizers to the project areas. Adding nutrients back to the grazing area not only benefits the livestock through more nutritious forage, but it benefits all the other organisms that live or feed in the grazing areas, as well as the vegetation on the site.

Under the No Action Alternative no liming and fertilization would be done and available soil nutrients would slowly continue to decline over time. The same would occur under the Proposed Action or the No Herbicide Use Alternative if funds were not available to conduct this work. However, with the ability to use fee credits with 10 year/term permits it is unlikely that the proposed liming and fertilizing, as proposed in the Proposed Action and the No Use of Herbicide Alternatives, would not occur on portions of these areas. Soil testing of the grazing areas prior to applications of lime and/or fertilizer will allow the correct amount of lime and fertilizers to be applied to these areas. Without this testing there is a risk of over applying nutrients, especially nitrogen. Over application of nitrogen could lead to excess nitrogen entering the drains and affecting water quality. The correct application of lime would help raise the soil pH up towards a level where plants find improved growing conditions. Occurring in an area where acid deposition is high, over years of acid precipitation, soils in these grazing areas have become increasingly acidic. Liming helps to offset the adverse effects of acid rain. In liming, although the pH level needed for improved growth varies with the plant species, the Forest Service attempts to reach a pH level of 6 or better. Raising soil pH through liming allows nutrients already in the soil, and any nutrients deposited, to be more readily available for plant uptake. As previously stated, liming and fertilization would only occur on the more level areas accessible by mechanical equipment. Soil supplements would not be applied to steeper areas where mechanical spreaders could not safely operate. Lime or fertilizer will not be applied within 25 feet of any perennial or intermittent stream.

The proposed fencing of riparian areas and/or wetlands, such as in the Proposed Action and the No Herbicide Use Alternative, would greatly reduce the chance of nutrients from livestock feces and urine getting into the surface waters. The un-grazed vegetation between the riparian area fence and the water would take up any nutrients that may be moving laterally from the grazed areas. Because the Queens Allotment has not been grazed since 1994, no nutrients from livestock feces and urine have been deposited on this allotment since then, and no nutrients have been entering surface waters. Therefore, for the Queens Allotment at the present time, there is no effect to waters from nutrients from livestock excretion. Similarly, because under the No Action Alternative livestock grazing

would not occur on the Queens Allotment, there would be no effects from nutrients from livestock excretion to water resources if this alternative is selected.

Admittedly, the input of large amounts of nutrients to a stream is detrimental. This can cause the total loss of oxygen in the stream, especially at night when aquatic plants are not photosynthesizing. However, the addition of small amounts of nutrients, such as nitrogen, potassium or phosphorus, to a stream is not always bad. Some streams have limited productivity due to low nutrient inputs. A lack of nutrients restricts the amount of algae and other aquatic plants that can grow in a stream. This in turn restricts the amount of aquatic insects that feed on plants, and thereby the amount of food for fish, the stream can produce. Small increases in nutrients can increase the productivity, including fish production, of a stream without harming the stream.

Under the Proposed Action and the No Herbicide Use Alternative, not allowing group/reunion camping in the Queens Allotment would reduce by a small degree deposition of nutrients from wash water, human waste, food waste, vehicle fluids, etc. on the allotment. The quantity, type and location of where these nutrients would actually be deposited in relation to the surface water on the allotment would determine the degree of effect they would have on soils and water quality from a nutrient standpoint.

Actions proposed, mitigation measures developed, and management practices already in place, or to be applied, all help in minimizing adverse effects from nutrients. It is concluded that there would be no substantial adverse effects from any of the alternatives to resources from nutrients from the proposed project areas.

For the discussion of the cumulative effects to soils the boundary is defined as all Monongahela National Forest lands over the past five years, as well as five years into the future.

Actions that may lead to the compaction of soils on Monongahela National Forest lands, such as the operation of vehicles, equipment, or riding and pack stock, are in most instances restricted to existing roads, trails or skid trails. These travel ways have been constructed for travel purposes and have been designed to reduce adverse affects to soils. Vehicles, including ATV's, are not allowed off road anywhere on the Forest. Where use of a road is expected to occur year round, or to carry high traffic volumes, the road is graveled, or in some instances, blacktopped. To reduce damage to roads and associated movement of sediment, many National Forest roads are closed, either seasonally, or year round, except for administrative use. Switchbacks are used in laying out roads and trails to reduce their steepness. Some vehicles are operated off of travel ways for mowing roadside vegetation, recreation areas, portions of grazing allotments, or wildlife openings. Vehicles also operate off travel ways when they apply soil supplements. These activities are normally carried out when ground conditions are dry so that vehicles do not get stuck, rut soils, and cause compaction, erosion or adverse effects to the hydrological properties of the soil.

Travel ways constructed on the National Forest are designed to reduce soil erosion. Soils disturbed during road construction are normally limed, fertilized, mulched and seeded with various herbaceous seed mixes. Skid trails are water-barred, and usually seeded, when no longer needed. Restrictions are placed on how steep of a grade a road can have. To dissipate run off and reduce soil movement roads are out-sloped or have ditches and culverts installed. Bridges are used to cross larger streams and rivers. Equipment used to construct new roads and skid roads are usually low psi tracked vehicles, such as bull dozers or track hoes, which minimize compaction.

Similarly, the construction of new wildlife openings or savannahs and gas well sites, incorporate measures to minimize soil erosion, compaction and the runoff of nutrients.

Except for the small amount of liming and fertilizing done in re-vegetating disturbed sites, such as during new road construction, nutrients are not normally applied to forested lands. Research studies on the Fernow Experimental Forest may at times apply soil supplements to portions of the experimental forest for research purposes.

It is concluded that there would be no cumulative adverse effects to soils from implementation of any of the alternatives.

## Wetlands, Riparian Areas, Fisheries

Under the No Action Alternative the Queens Allotment would not be grazed. The wetland and riparian areas within the allotment would not be fenced out and the wetland would not be restored to its original hydrologic condition. This ditched and drained wetland and its current vegetation and animal life would remain. An opportunity for the Monongahela National Forest to work with conservation groups to restore a wetland on federal lands and to demonstrate to the public what they might do on their properties to better protect wetland resources would be forgone. A new watering facility on the Queen's Allotment would also not be created.

Restoration of the wetland in the Queens Allotment, as proposed in the Proposed Action and the No Herbicide Use Alternative, would allow this previously manipulated area to function nearer to its original condition again. Water would flow through the wetland at a slower rate and more like it historically had. Ground water would be recharged, rather than be drained off quickly into the Shaver's Fork by the existing ditches. Habitat for aquatic and wetland associated animals and vegetation would be improved. As the water level in the wetland changed by plugging the drainage ditches the species of plants within the wetland would change from the current moist soil plants to more submergent and emergent aquatic plants.

Under the Proposed Action and the No Herbicide Use Alternative the Queens wetland and riparian areas would be fenced out. Livestock would not be able to walk, graze, drink, loaf, defecate and urinate in these areas. Without occupancy by livestock in these areas, vegetation would be allowed to grow, mature, and produce flowers for use by pollinating insects, and produce seeds for plant reproduction or for use by wildlife as food. Sediment production would be reduced. These areas would act as filters for sediment and nutrients that may move from adjacent upland, grazed areas. Compaction, bank shearing, or puddling by livestock would not impact soils in these fenced areas. Over time the hydrologic properties of the soil in these areas would return to normal allowing water to move more naturally through the soil profile and into open channels or into the groundwater, as the wetland areas move back toward their natural function. Waters flowing from these areas would be cooler since they would be less exposed to the direct sun due to shading by additional overhead vegetation. If livestock are fenced out, wildlife could nest, feed, and loaf in these areas without having to react to livestock activity. The wetland would be restored and an opportunity to work cooperatively with other conservation organizations in restoring this wetland on federal lands would be made available. A new livestock watering facility in the Queen's Allotment would be developed. The spring that would feed water to this trough would be fenced out and protected from livestock

occupancy. Livestock would have less desire to test the riparian and wetland fences to try to drink from these areas. Fencing out the wetland and riparian areas would also provide another allotment on the Forest that demonstrates good grazing management to the public. Wetland and riparian protection measures would also be demonstrated.

Under the No Action Alternative livestock would continue to be able to walk in and defecate in the presently un-fenced springs in the eastern portion of the Allegheny Battlefield Allotment. In the Proposed Action and in the No Herbicide Use Alternative a cluster of two springs very close together would be fenced out and developed as a new livestock watering site. A water trough, on a level site hardened with gravel, compared to the existing condition, would reduce soil movement. Without this new watering site livestock may spend more time down in the un-fenced wooded riparian area in the eastern part of the allotment. This could cause sedimentation to the stream from bank shearing from hoof action and increase nutrients from livestock excretion to this ephemeral stream .

Also under the No Action Alternative, a pond would not be constructed in the western portion of the Allegheny Battlefield Allotment. Not constructing this pond would not improve livestock distribution and forage utilization across the allotment, and a rotational grazing system could not be initiated because there would be no livestock water source in this western pasture. Without the construction of a pond in the western portion of the Allegheny Battlefield Allotment installation of an interior fence to create two pastures out of one would be of no value. Constructing a fenced pond would improve terrestrial wildlife habitat in the vicinity of the pond, and the amount of aquatic wildlife habitat available. A new pond would provide a water source for use by various wildlife species for drinking, as well as breeding habitat for aquatic insects and amphibians. Selected species of bats and birds could forage for insects over the pond.

Under the No Action Alternative a portion of the boundary fence of the Callison/Clark Tract along Anthony Creek would not be relocated farther back from the creek and this portion of the area's perimeter fence would continue to be damaged or destroyed during times of severe flooding. Fence maintenance costs would not be reduced. The vegetative filter strip between the pasture boundary fence and Anthony Creek would not be widened.

Providing reliable water sources away from streams and drainages, such as under the Proposed Action and the No Herbicide Use Alternative, reduces the need for livestock to spend time in these sensitive areas. This reduces the chances of bank shearing from livestock hooves, sediment entering the channel, loss of riparian vegetation from grazing, and pollution of surface waters from livestock excrement. Properly installed water sources on a level area with the area around the trough hardened with gravel, or the restriction of livestock to one graveled ramp at a fenced pond to drink, provides a stable area for livestock to drink where a small area of soil is sacrificed for a small loss in soil productivity, but which does not become a source of sediment and is less likely to erode away, or be carried away on muddy livestock hooves. Soil movement is reduced and water quality is improved.

The use of an herbicide that is approved for use in aquatic sites (Rodeo/a form of glyphosate) would reduce potential adverse effects to wetlands, riparian areas, and fish resources. The mitigation measure to not use a surfactant in the herbicide spray when applying herbicide to noxious/non-native invasive weeds within 50 feet of surface water would help protect water quality. Also, see the effects section on MIS/brook trout for a discussion on fisheries. Also see the effects section on herbicides.

It is concluded that the Proposed Action and the No Herbicide Use Alternatives would have an overall positive effect to wetlands, riparian areas and fisheries when compared to the existing condition. If the No Action Alternative would be selected for implementation there would be more adverse effects to wetlands, riparian areas and fisheries. Springs on the Allegheny Battlefield Allotment would not be fenced out from livestock use. A portion of the Callison/Clark boundary fence along Anthony Creek would not be moved back from the creek.

For the discussion of the cumulative effects to wetlands, riparian areas and fisheries the boundary is defined as the 6<sup>th</sup> level hydrologic unit code (HUC) that the proposed project areas occur in, over the past five years, as well as five years into the future.

In all of its management activities the MNF is very sensitive to the protection of wetlands, riparian areas and its fisheries resources. All of the larger wetlands on the Forest, such as Cranberry Glades or Olson Run/Big Run Bog, have been proposed as Research Natural Areas or as Botanical Areas under our Forest Plan. During such activities as road construction or timber harvest, wetlands and riparian areas are usually avoided, or mitigation measures are incorporated into project design to minimize adverse effects to these important areas. As mentioned, bridges are usually constructed over the larger creeks and streams to reduce sediment and to protect water quality. The MNF Forest Plan contains standards and guides to protect wetlands and riparian areas on the Forest (see appendixes R/Riparian Area Management). For example, as it relates to grazing, “a minimum 25 foot filter strip will be maintained between applications of lime and fertilizers on all perennial and intermittent watercourses”. Shade strips and filter strips are routinely implemented to protect water bodies on the Forest from sediment and increased water temperatures. Riparian vegetation is managed to supply large woody debris to streams over time to provide hiding cover for fish and to create pools and nursery areas for fish. Some streams on the Forest are limed in cooperation with the WV DNR to increase the pH of the stream and to improve the water quality for fisheries. Also, see the cumulative effects section for soils for additional information relating to how soils are managed so as not to adversely affect water resources.

The Proposed Action and the No Herbicide Use Alternatives both comply with Forest Plan direction to protect wetlands and riparian areas in that under these alternatives the wetland and riparian areas in the Queens Allotment would be fenced out from livestock grazing. When the Queens Allotment became vacant in the early 90’s it was decided by the Cheat District Ranger that the decision to issue a new grazing permit to allow grazing to continue on the Queens Allotment would be postponed until NEPA analysis (as in this analysis) could be conducted to determine how best to address the wetland within the allotment issue. Because under the No Action Alternative, grazing would not be re-initiated in the Queens Allotment because the wetland and riparian areas would not be fenced, this alternative would also be in compliance with the Forest Plan standards and guides relating to protection of wetlands and riparian areas.

It is concluded that adverse cumulative effects to wetlands, riparian areas or fisheries from implementation of any of the alternatives would be unlikely. Implementation of these alternatives would likely be positive to these resources because, both wetlands and riparian areas would be protected from grazing through fencing (Proposed Action and No Herbicide Use Alternatives), or no grazing would occur where wetlands and riparian areas would not be fenced (No Action Alternative – Queens Allotment). All alternatives would maintain or improve existing water quality and maintain or reduce the existing level of sediment and nutrients reaching water bodies. Under the Proposed Action an herbicide approved for use in water would be used to control noxious/non-native

invasive weeds and brush, and a surfactant would not be used in the spray mix when spraying noxious/non-native invasive weeds and brush within 50 feet of surface waters. Under the Proposed Action and the No Herbicide Use Alternative a portion of the boundary fence on the Callison/Clark Tract would be moved farther away from Anthony Creek and two springs in the Allegheny Battlefield Allotment would be fenced out. However, under the No Action Alternative these two management actions would not be implemented. This would be to a small degree less beneficial to wetlands, riparian areas and fisheries compared to the other two alternatives.

## Cultural/Archeological Resources

The most substantial potential effects to cultural/archeological resources would occur when soils are disturbed, such as with a bulldozer or plow. Artifacts in the soil could be broken, and their spatial relation to each other could be altered. In any of the alternatives, very little soil would be disturbed. Most likely, new fence posts for new interior fences, or to replace existing fences, would be driven into the soil with a fence post pounder rather than having post holes dug. This would minimize the area/amount of soil disturbed from this activity. In most instances, areas within allotments proposed for soil disturbance have already been disturbed in the past. For example, existing low standard roads within these allotments are already in place. A small amount of soil would be disturbed to bury water inlet and outlet lines for the proposed water trough development at the Queens and Allegheny Battlefield Allotments. The proposed ditch to drain water away from the existing water trough at the Callison/Clark tract would also only disturb a small amount of soil. No plowing of grazing area soils are proposed in any alternative.

Under the No Action Alternative the Queens wetland would not be restored. Under the Proposed Action and the No Herbicide Use Alternative, it is proposed to plug the two drainage ditches that drain the Queens Allotment. These areas have already been disturbed in the past. Replacing an earthen plug in these ditches would not disturb the site any further. Soil material with high clay content is best for plugging these ditches. As discussed in the section on mitigation, if material to plug these two drainage ditches is taken from National Forest lands, an assessment or survey for cultural resources and TES species will be conducted of the site prior to removal of the material. The proposed filling in of the ditch that runs through the Queens wetland that drains the wetland would simply be replacing the material that was removed from this ditch and side cast in the past. This area has already been disturbed. There should be no adverse effect to cultural resources from this activity. No new roads are proposed for construction in any alternative. Roads proposed for maintenance, leading to or inside allotments, are already in place and have already been disturbed in the past during their initial construction, and by any past maintenance activities. Pounding in new fence posts or replacing existing fence posts is highly unlikely to adversely affect cultural resources since known cultural resource sites determined from surveys would be avoided.

All of the proposed project areas have been surveyed for cultural resources. Only the Rimel Allotment has not been completely surveyed. No soil disturbing activities are proposed for the Rimel Allotment. Cultural resources have been recorded on all but the Callison/Clark Tract. Recorded cultural resources range from the location of a Civilian Conservation Corps camp, to prehistoric lithic scatters, to a Civil War Confederate camp. These sites will be avoided by soil disturbing activities. Review of the alternatives by the Forest Archeologist indicate that there would be no effect to cultural resources provided that the following mitigation measure is incorporated into project design and implementation: "That prior to the selection of the exact location for the proposed



livestock watering pond in the western end of the Allegheny Battlefield Allotment and prior to the selection of the exact location for the proposed new interior fence and gate at the Allegheny Battlefield Allotment, that the person involved in project layout consult with the Forest Archeologist”. The Forest Archeologist will ensure that these projects do not disturb recorded sites. Also see mitigation measures.

The Forest Archeologist feels that the “continued grazing of the Allegheny Battlefield Allotment, would, in fact, have a net positive impact to the interpretation of the site and its continued enjoyment by the American people.”

The walking over of these project areas by livestock during grazing should not adversely affect any cultural resources. Use of an herbicide to control noxious/invasive plants should not adversely affect cultural resources. Rodeo/glyphosate is strongly absorbed by soil particles and organic matter. Artifacts are usually on or in the soil and are made of metal, bone or rock. These materials should not be affected by herbicide sprayed on the leaves of selected above ground vegetation.

Therefore, it is concluded that implementation of any of the alternatives would not have a substantial adverse effect to cultural/archeological resources.

For the discussion of the cumulative effects to cultural/archeological resources the boundary is defined as all MNF lands over the past five years, as well as five years into the future.

Annually, portions of the MNF are surveyed for cultural resource sites by paraprofessional archeologists (Forest Service employees with archeological training), the Forest Archeologist, archeological contractors, or seasonal, trained crews. Proposed projects on the Forest are reviewed by the Forest Archeologist and proposed project areas are included in these surveys. Information on significant sites that are found during these surveys is entered into a data base and hard copy files. In most instances, significant cultural resource sites are avoided by moving or dropping the proposed project. In some cases mitigation measures may be incorporated into project design to minimize adverse effects to cultural resource sites. Similar to threatened and endangered species, the archeological goal is to protect and avoid all adverse impacts to important cultural resource sites.

Because all proposed projects are surveyed for cultural resource sites prior to the project being implemented, because the four proposed project areas have been surveyed for cultural resources, and because mitigation measures for 1. the proposed construction of an interior fence, and a livestock watering pond in the west side of the Allegheny Battlefield Allotment, and 2. the proposed plugging with earthen material of the ditch that drains the Queens wetland, have been developed and incorporated into this document and project design, it is concluded there would be no adverse cumulative effects to cultural/archeological resources from the Proposed Action or the No Use of Herbicides Alternative. In the No Action Alternative an interior fence and pond would not be built on the Allegheny Battlefield Allotment and the Queens wetland would not be restored. Therefore, under this alternative there is no need for mitigation measures to protect cultural resources on these allotments. The No Action Alternative would not have any adverse cumulative effects to cultural/archeological resources.

## Management Indicator Species

One will notice that there is some overlap between the threatened, endangered and sensitive species (TES) effects section and the management indicator species (MIS) effects section because several of the MIS are also listed as TES. See both of these effects sections of the document for information relating to effects to these resources.

Management Indicator Species for the Monongahela National Forest include white-tailed deer, black bear, gray squirrel, wild turkey, snowshoe hare, wild trout, Indiana bat, Virginia big-eared bat, Cheat Mountain salamander, and the West Virginia northern flying squirrel. The last four species are also TES species.

Maintaining these four project areas in a non-forested, early seral habitat condition through the use of livestock grazing and the selective treatment of encroaching brush by cutting and herbicides, as would occur under the Proposed Action, would, overall, be beneficial to white-tailed deer, black bear, and wild turkeys. These grazing areas contain grassy/herbaceous vegetation, including clovers, for feeding by these species. The grassy, savannah, and edge habitats found in and around grazing areas produce an abundance of grasshoppers and other insects that are very important as food for wild turkeys, and especially for young turkey poults. The apple trees and other soft and hard mast trees and shrubs, such as hawthorn and blackberries, found on these areas provide food utilized by these three species. The Queens and Allegheny Battlefield Allotments are considered more valuable as habitat for bear and turkeys than the Rimel and Clark tract because they are more remote from human occupation and have less vehicle and human activity around them. Female deer often give birth and hide their fawns in the grassy areas of these grazing areas. In the fall, usually at night, bears climb or ride down the soft and hard mast trees and shrubs to feed on the fruits/mast. These grazing areas provide an under-represented but very important habitat type on the National Forest for these species. Less than 3% of the Monongahela National Forests lands are in an open grassy condition. The proposed control of noxious weeds that produce soft mast, such as autumn olive and multi-flora rose, would reduce the amount of soft mast available for consumption by these species. However, from a big picture perspective, maintaining these areas in an open state for use by these three MIS, as well as the other wildlife species that benefit from non-forested habitat, is considered more beneficial over the long term than the loss of the soft mast produced from the noxious weeds proposed for control. Control of noxious weeds can increase forage and hard and soft mast production from native species for use by MIS.

The proposal to construct a new pond on the Allegheny Battlefield Allotment, such as under the Proposed Action and the No Herbicide Use Alternative, would be beneficial to deer, turkeys and bear, as well as other species of wildlife. It would be a source of drinking water. Bears could also wallow in it. As previously mentioned, the aquatic flying insects the pond would produce could be used as food by bats and certain species of birds. Amphibians could use the pond as a mating and egg laying area.

Because gray squirrels prefer mature oak-hickory forests as habitat and because all of the proposed project areas are primarily non-forested, maintaining these areas in an open condition, or carrying out the other proposed activities, would not adversely affect the gray squirrel to any substantial degree.

Snowshoe hare typically occur in the higher elevations of the Forest in areas containing the red spruce forest type, or in northern hardwood forest types with a dense under story of red spruce or rhododendron shrubs. The snowshoe hare also uses non-forest openings within the forest for feeding. The Queens, Rimel, and Clark Tract are all at low elevation and do not provide habitat for the snowshoe hare. Therefore, due to their locations, any management conducted on these areas would not affect the snowshoe hare. The Allegheny Battlefield Allotment is a high elevation allotment and does have some scattered red spruce in the forest stands adjacent to the allotment. There is also a Norway spruce plantation of small saw timber-sized trees adjacent to the allotment. These adjacent stands are not considered high quality snowshoe hare habitat. The Norway spruce plantation has a very dense canopy and has no under story vegetation for hares to hide in or feed on. The adjacent northern hardwood stands with a small component of red spruce do not have an extensive or thick under story of red spruce seedlings or rhododendron like hares prefer. However, if they occurred here, there would be some chance that snowshoe hares would use the area on the edge of and around the Allegheny Battlefield Allotment for feeding. If this were the case, maintaining the Allegheny Battlefield Allotment in a non-forest condition would be beneficial to the snowshoes hare. The hares could feed out from the forest edge on the grasses, legumes and other herbaceous vegetation this opening provides.

It is unlikely that implementation of any of the alternatives would have an adverse effect to wild trout. Waters from the Queens Grazing Allotment flow into the Shaver's Fork River south of Parsons, WV. In this portion of the river the Shaver's Fork is a cool water, small mouth bass stream. An occasional trout from upstream stockings may be found in this portion of the river, but this section of the river is not a true year round trout stream. In addition, the proposed fencing out of the wetland, a seep and its associated riparian area, and a small portion of the Queens Allotment that is currently within the floodplain of the river, would further reduce the chance of sediment and nutrients getting into this river (see section on wetlands and riparian areas). Under the No Action Alternative the Queens Allotment would not be grazed and the wetland and riparian areas within the allotment would not be fenced. Therefore, there would be no change to the existing water quality of the Shavers Fork and to the habitat for fish in the Shavers Fork if this alternative was selected and implemented.

The Clark Tract is a flat grazing area. There are no streams within the allotment. Outside and to the east of the allotment is the North Fork of Anthony Creek. The section of this stream that is adjacent to the allotment is a warm water stream. There is a wooded filter strip between the allotment fence and the stream. This filter strip reduces the chances of sediment and nutrients from the allotment getting into the stream. Outside and to the south of the allotment is Anthony Creek. Anthony Creek is a warm water fishery that gets stocked with catchable trout (mostly rainbow trout) in the spring when water temperatures are cold enough to support trout. By summer, water in the creek becomes too warm to support and carryover trout. Anthony Creek is not a native brook trout stream where brook trout reproduce naturally. There is a wooded filter strip between the allotment fence and the stream. This filter strip should reduce the chance that sediment or nutrients from the allotment would enter the stream.

At the Rimel Allotment, Cochran Creek flows through the allotment. This allotment is level. West Virginia Division of Natural Resources fisheries data indicates that this stream is a warm water stream. Fish species captured in this creek include black nose dace, creek chubs and white suckers. Cochran Creek is fenced out from grazing. There is a partially wooded but vegetated buffer zone on both sides of the creek between the pastures' fences and the creek. This vegetated and un-grazed

buffer zone reduces the chance of sediment and nutrients moving from the allotment to the waters of the creek. Livestock cannot walk on the creek banks and cause bank shearing.

Laurel Creek flows outside and to the north of the Rimel Allotment. This creek is also categorized as a warm water stream and contains fish species similar to Cockran Creek. There is a wooded buffer zone between the allotment boundary fence and the creek. This vegetated zone or filter/buffer strip also reduces the probability of sediment and nutrients entering Laurel Creek from the allotment.

On the Allegheny Battlefield Allotment there is one small, intermittent, wooded drain that heads up in the allotment. It presently is not fenced out from livestock grazing. It flows off the allotment through woodland and eventually flows into the headwaters of Little River. Little River is a native brook trout stream. Because this small intermittent drain is downhill and is wooded, and because the vast majority of livestock use on this allotment occurs up above on the grassy ridge top, there is little use of this wooded drain by livestock. As discussed in the Proposed Action, if monitoring of this wooded drain indicates that livestock are substantially impacting it, it would be fenced out. The proposal to develop an additional livestock watering area from one of the springs on the east side of this allotment and uphill from this wooded drain, as proposed in the Proposed Action and in the No Herbicide Use Alternatives, if implemented, should further reduce the need or desire of livestock to go down into this wooded drain to drink and cause resource problems. There are several trees on the ridge of this allotment that provide shade for livestock. This also reduces the need for livestock to walk down into this drain for shade. Livestock prefer resting in the shade of a tree on the ridge where the wind is stronger and cools them and deters annoying insects. It is unlikely that brook trout that occur down stream would be adversely affected by not fencing out this drain at this time. The one spring-wetland-water trough in the south central part of this allotment has the spring and small wetland below it already fenced out from livestock use. The trough is on flat, dry land and the area around the trough is hardened with gravel. There is a vegetative buffer between the trough and the small wetland. This protects the wetland from receiving sediment and nutrients from this area of high livestock use.

The Cheat Mountain salamander occurs in colonies on the forest floor at high elevation in some of the red spruce and northern hardwood stands on the Forest. During the day it hides under rocks, downed logs, and leaf litter. At night, if temperatures are cool enough and moisture is high enough, it comes out to feed on small invertebrates. It does not occur in non-forested areas where direct sunlight dries out and heats up the soil surface. The Queens, Rimel, and Clark Tract all occur at low elevations and are outside the potential habitat of the Cheat Mountain salamander. Although the Allegheny Battlefield Allotment is at a higher elevation (approximately 4300 feet) the vast majority of the allotment is open/grassy/non-forested. There are no known Cheat Mountain salamander colonies near this allotment. It is highly unlikely that Cheat Mountain salamanders could survive on, or occur on, this allotment. Therefore, the Cheat Mountain salamander would not be affected by implementation of the Proposed Action or any of the other alternatives.

Similar to the Cheat Mountain salamander, the West Virginia northern flying squirrel (WVNFS) also occurs at high elevations in some of the red spruce or northern hardwood forest stands on the MNF. The northern hardwood forest types must contain some red spruce or hemlock trees in the over story or under story to be considered suitable habitat for the WVNFS. Occurring at low elevations, the Queens, Rimel and Clark Tract project areas are outside potential habitat for the WVNFS. Although the Allegheny Battlefield Allotment does occur at high elevation, being primarily open/grassy/non-forested, it is not suitable habitat for a species that lives in woodland areas. The Norway spruce

plantation adjacent to the allotment is not considered potential habitat for the VNFS. Due to the density of trees this stand has very little under story vegetation. There are no known capture sites or occupied habitat areas for the WVNFS near the Allegheny Battlefield Grazing Allotment. Therefore, implementation of any of the alternatives should not affect the WVNFS.

An analysis using the Forest's Geographical Information System (GIS) was conducted to determine which, if any, proposed project areas occur within five miles (area of influence – for foraging, roosting or swarming) of an Indiana bat hibernacula. This five-mile radius has been determined to be the maximum distance from an Indiana bat hibernacula that Indiana bats (primarily males – since there is no documentation to date, despite quite extensive surveys, that female Indiana bats or summer maternity colonies occur on the MNF during summer months) will forage/fly. The Rimel and the Allegheny Battlefield Allotments, and the Callison/Clark Tract, are not within five miles of any known Indiana bat caves. Therefore, according to the Environmental Assessment for the Proposed, Threatened and Endangered Species Amendment to the Monongahela National Forest Land and Resource Management Plan, and other documents, such as the Revised Biological Assessment for Threatened and Endangered Species on the Monongahela National Forest, the Biological Opinion for Threatened and Endangered Species on the Monongahela National Forest, or the Forest Plan Amendment for Threatened and Endangered Species, there would be no effects to Indiana bats from any of the alternatives for these three project areas.

The GIS analysis determined that the Queens Allotment does fall within five miles of two Indiana bat hibernacula. However, the five-mile radius applies to the cutting of trees greater than five inches dbh (diameter at breast height). These would be trees that Indiana bats might roost in during rest periods during night time foraging, or during the day when not foraging. Since none of the alternatives call for cutting any trees over five inches in diameter, there should be no effects to Indiana bats roosting habitat. Also, see the Biological Evaluation for this EA for additional information and discussion.

Proposed activities on the Queens Allotment, such as fencing out the riparian area, the part of the allotment within the floodplain of the Shaver's Fork, and the wetland, and the restoration of the wetland, as proposed under the Proposed Action and the No Herbicide Use Alternatives, are all considered to be beneficial to the Indiana bat since these areas would not be grazed. They would continue to provide habitat for the production of terrestrial and aquatic insects. Indiana bats could forage over these insect production areas. The forested edge around the allotment, as well as the individual, clumps and corridors of trees within the allotment, all provide foraging habitat for the Indiana bat. Proposed activities, such as the creation of new water developments, repairing or reconstructing barbed wire fences, cutting noxious weeds and or brush, etc. are considered not to be adverse to the Indiana bat. For example, Indiana bats do not roost in weeds or shrubs. Barbed wire fences are not considered a barrier to Indiana bat movement. If the alternative that would allow use of herbicides to control non-native, invasive, noxious weeds is selected, no adverse effects to Indiana bats are anticipated. Indiana bats do not roost in shrubs such as autumn olive or multi-flora rose. As discussed in the section on herbicides, the use of glyphosate/Rodeo is of low toxicity to humans and wildlife. The LD (lethal dose) 50 for Rodeo is >5,000mg/kg. The herbicide proposed for use is a plant growth inhibitor and is not an insecticide. It is unlikely that herbicide sprayed on selected plants would contact many night flying insects that would later be eaten by an Indiana bat. And even if an Indiana bat did forage in an area in which individual noxious weeds had been sprayed with an herbicide which resulted in some night flying insects getting sprayed, huge numbers of sprayed

insects would have to be eaten by the same bat in a very short period of time before it could substantially affect the bat.

A similar GIS analysis as was conducted for the Indiana bat was completed for the Virginia big-eared bat (VBEB). The location of VBEB caves (both summer colony and winter hibernacula) were mapped in relation to the four proposed project areas. Studies have shown that the VBEB may forage up to 6 miles from its cave. The Rimel and Allegheny Battlefield Allotments, and the Callison/Clark Tract, are all more than six miles from a VBEB cave. There should be no effects to the VBEB from any of the alternatives for these three project areas. However, the Queens Allotment is within 6 miles of a VBEB cave. This cave, Big Springs cave, is only a winter hibernacula for a few VBEB. It is not a summer maternity site for VBEB. In the winter of 2002-2003 a survey indicated that two VBEB were hibernating in this cave. This cave is approximately three miles from the Queens Allotment. Proposed activities on the Queens Allotment such as fencing out the riparian area, the part of the allotment within the floodplain of the Shaver's Fork, the wetland, and restoring the wetland, as proposed in the Proposed Action and in the No Herbicide Use Alternative, are all considered to be beneficial to the VBEB. Since these areas would not be grazed they would continue to supply habitat for the production of terrestrial and aquatic insects. VBEB could forage over these areas. If the alternative that would allow use of an herbicide to control non-native, invasive, noxious weeds is selected, no adverse effect to VBEB is anticipated. VBEB feed primarily on flying moths. VBEB do not roost in shrubs such as autumn olive or multi-flora rose. As discussed in the section on herbicides, the use of glyphosate/Rodeo is of low toxicity to humans and wildlife. The LD 50 for Rodeo is >5,000mg/kg. It is very unlikely that herbicide applied to selected plants would contact large numbers of moths, or other insects, that would later be eaten by a VBEB. And even if a VBEB did forage in an area in which individual noxious weeds had been sprayed with the herbicide and some moths received some spray, huge numbers of contaminated insects would have to be eaten by the same bat in a very short amount of time before it could substantially affect the bat. The herbicide proposed for use is a plant growth inhibitor and is not an insecticide. The edge around the allotment, the fruit trees within it, and the individual, clumps and corridors of trees within the allotment all provide foraging habitat for the VBEB. Proposed activities, such as the creation of a new water development, repairing, constructing, or reconstructing barbed wire fences, cutting noxious weeds and/or brush, etc. are not considered to be detrimental to the VBEB. Also see the Biological Evaluation for this EA for additional information and discussion.

For a discussion of the cumulative effects to Management Indicator Species the boundary is defined as all MNF lands over the past five years, as well as five years into the future.

The following will discuss the cumulative effects of the various alternatives to the six MIS that are not listed as T and E species (white-tailed deer, black bear, gray squirrel, wild turkey, snowshoe hare, and wild trout).

For a discussion of the cumulative effects of the alternatives to the four TES species that are part of the Forest's ten MIS see the TES effects section.

Because deer, bear, turkey, and hare all benefit from having non-forested/early seral/herbaceous habitat as a component of their home range, maintaining these four project areas through seasonal grazing and the control of non-native invasive brush, all alternatives would be beneficial to these MIS. While timber harvest and other ground disturbing activities create early seral habitat, these habitat patches are short lived. Within 20 years regeneration harvest units are fully stocked with

young trees shading out most herbaceous under story vegetation. Skid trails and log landings within the sale area, unless actively managed/day lighted, are also eventually shaded out by tree growth in time. Herbaceous habitat is soon lost from these areas. Non-forested areas that have been and are being grazed for many years would also eventually grow back to forest if grazing and brush control is discontinued, but it would take much longer for these areas to completely lose their herbaceous component, compared to forested land that has been changed through timber harvest. This is because the much more developed sod of grazing areas acts to inhibit woody brush and tree invasion. There are also less living tree roots, tree seeds, tree seedlings and recently cut tree stumps in a pasture to grow or re-sprout after cutting, compared to a forested area that has been harvested.

Forested areas treated with other silvicultural methods besides clearcutting, such as thinnings, crop tree harvests, two-aged harvests, shelterwood harvests, etc. that leave various densities of large living trees on the unit uncut, would lose any herbaceous component created by the canopy disturbance even faster than clear-cuts. Roadsides do provide some early seral/herbaceous habitat for MIS, however many of these areas are disturbed by vehicle traffic, mountain bikers, horseback riders, hikers, hunters, etc. Wildlife tends to accept grazing livestock as little or no threat to their survival and will readily feed, rest, and nest in and amongst them. Wildlife is much less trusting of humans, especially on foot, and often flees at first sight or upon hearing or smelling approaching people. Grazing areas generally provide more useable habitat by MIS and other selected wildlife species, in part because they are fenced and gated. During the grazing season they contain livestock, including bulls and cows with calves, and most forest users tend to select other areas of the Forest to use. Some private lands also provide herbaceous habitat for MIS and other species of wildlife. However, these areas are often disturbed with uncontrolled ATV use (illegal on NF grazing areas except while maintaining fences, checking livestock, forage, water, etc.), domestic and feral dogs and cats, often more frequent and intensive management activities, etc. The cumulative effects to deer, bear, turkey, and hare from any of the alternatives are considered slightly positive.

Because gray squirrels require mature oak-hickory forest and allotments/pastures are primarily non-forested areas, there would be no adverse cumulative effects from any of the alternatives on the gray squirrel. Gray squirrels do not occur in any substantial numbers on any of the proposed project areas.

The impacts to wild trout are described in the effects and cumulative effects sections for soils, vegetation, wetlands, riparian areas, fisheries, recreation and herbicides. Portions of these sections discuss effects to such aspects as sediment/erosion, nutrients, water quality, fisheries, recreational fishing, etc., all which relate to the welfare of wild trout. It is concluded that there would be no substantial adverse cumulative effect to wild trout from any of the alternatives.

## **Threatened, Endangered and Sensitive Species**

As previously mentioned, there is some overlap between the threatened, endangered, and sensitive species (TES) effects section and the management indicator species (MIS) effects section because several of the MIS are also listed as TES. See both effects sections of the document, as well as the Biological Evaluation for this EA, for information and discussions relating to these resources.

A Forest Service biologist's review of the Forest's threatened, endangered, and sensitive species known location records indicate there are no known TES from within, or nearby, any of the four proposed project areas.

Except for the Indiana bat and the Virginia big-eared bat, and only in the vicinity of the Queens Allotment, suitable habitat for threatened or endangered species does not occur within the proposed project areas. The Biological Evaluation for this environmental analysis determined that the Proposed Action may affect, but is not likely to adversely affect, the Indiana bat and the Virginia big-eared bat. The Biological Evaluation also determined that the Proposed Action may impact individuals, but is not likely to lead to a loss of viability or a trend toward federal listing, to one sensitive bat species, one sensitive bird species, eight sensitive aquatic species, and one sensitive plant species. For additional information on affects to TES see the Biological Evaluation prepared for this EA.

Also, see the Revised Biological Assessment for Threatened and Endangered Species on the Monongahela National Forest, September, 2001. This document discusses the potential direct, indirect and cumulative affects of implementing of the MNF Forest Plan on T and E species. The Proposed Action is in compliance with the MNF Forest Plan and the Forest Plan Amendment for Threatened and Endangered Species and therefore should not adversely affect T and E species. Also see the Biological Opinion from the US Fish and Wildlife Service prepared in response to the Revised Biological Assessment.

For the discussion of the cumulative effects to the four threatened and endangered species that are also MIS the boundary is defined as all lands within the proclamation boundary of the MNF over the past five years, as well as five years into the future.

Similar to cultural/archeological resources, a Forest Service wildlife biologist and an ecologist/botanist review all proposed projects on the Forest. The goal is to protect and avoid adverse impacts to all TES species on the Forest, to comply with the Endangered Species Act, and Forest Service direction concerning sensitive species. If it is determined by the biologist or ecologist/botanist that potential habitat for an endangered or threatened species occurs in the proposed project area, surveys to determine their presence or absence are normally conducted. Previous records of known TES locations on the Forest are also reviewed and considered in providing input and in making decisions relative to TES species and the project. More recently the development and use of predictive models and/or maps, at times using geographical information system (GIS) technology, are being employed to assist biologists in identifying potential and occupied habitat for TES species. TES surveys may be conducted by Forest Service Wildlife Biologists, Forest Service biological or NEPA technicians, contractors, or by trained seasonal crews. Results of TES plant or animal surveys are entered into a TES species data base. Known habitat (occupied habitat) for TES species are usually avoided by dropping or moving the proposed project. Proposed project sites are often intentionally planned in areas outside of potential T and E habitat reducing the need for, and costs of, surveys. Known TES sites are usually avoided. In some instances, mitigation measures, such as standards and guides developed through consultation with the US Fish and Wildlife Service, or developed by a Forest Service wildlife biologist, are incorporated into the proposed project to minimize adverse effects to TES species or to improve habitat conditions for a particular TES species. Some TES species can benefit from active management of their habitat. For example, partial removal of the over story or mid story trees above a known Running Buffalo Clover population could help increase light levels, moisture, and nutrients, so that these plants can grow better, flower, produce more seeds, and increase their numbers. In such cases, and through consultation with the US Fish and Wildlife Service, habitat improvement activities may be incorporated into a proposed project and project design.



The MNF has no control of activities that occur on private lands in and around the Forest. The majority of these private lands have not been surveyed for TES species. However, due to its size, variety of habitats, ecosystems, niches, and past management, much of the habitat for TES species in West Virginia occurs on the MNF. For example, the majority of high elevation Red Spruce Forest that provides habitat for the Virginia northern flying squirrel and the Cheat Mountain salamander occurs on and is managed by the MNF. Several of the caves that are hibernacula or summer maternity sites for the Indiana bat or the Virginia big-eared bat occur on the MNF. There are relatively few known instances where management activities on private lands have adversely effected TES species or their habitat. Unlike the MNF, most of the older red spruce forest on private lands in West Virginia has been harvested in the past and no longer provides suitable habitat for such TES species as the Cheat Mountain Salamander of the VNFS. Or, this habitat is marginal at best. State and other federal agencies, such as the West Virginia Department of Natural Resources, or the US Fish and Wildlife Service, as well as environmental groups, work within their jurisdictions to minimize adverse effects to TES species from projects on private lands in WV.

Projects on private lands involving federal funding, such as the construction of federal highway Corridor H, or the recently constructed wind powered electric generators on Backbone Mountain in Tucker County, are required to comply with the Endangered Species Act. On such federally funded projects surveys for TES species are often required, environmental documents are prepared, and consultations with the US Fish and Wildlife Service are carried out. Often, mitigation measures are incorporated into the design of these projects on private lands to avoid or minimize adverse effects to TES species.

Some of the corporate landowners in the vicinity of the MNF, such as Mead-Westvaco, or Snowshoe Mountain Ski Resort, as well as some of the smaller landowners, voluntarily survey for and/or protect and manage for TES species on their ownerships.

Based on the above it is concluded that none of the Alternatives would result in cumulative adverse impacts to TES species such as the Indiana bat or the Virginia big-eared bat.

For information on the monitoring of TES species on the MNF see the Annual Monitoring and Evaluation Reports for fiscal years 1999 and 2000. These can be found on the MNF website under Forest Planning. The Forest's Monitoring and Evaluation Report for 2001-2003 is presently in preparation and is not yet available.

## **Visual Quality**

Portions of all four proposed project areas are viewable from open state or county roads. With the state and National Forest being heavily wooded, non-forested grazing areas provide visual/scenic diversity to people passing these areas. The project areas provide vistas where people can see mid-ground and distant views, and compared to driving down a secondary road with woodland on both sides, these areas allow people to see more than a tunnel of forested land. Providing opportunities for viewing livestock grazing in a pasture helps maintain the character of the rural/pastoral landscape historically found in and around the Monongahela National Forest and in the mid-Appalachians.

Under the No Action Alternative and the No Herbicide Use Alternative there would be no treatment of noxious weeds/brush with herbicides. Therefore, there would be no vegetation with yellowed, browned, or bluish leaves to be observed by the public. Under the Proposed Action, where herbicide

would be used to control noxious weeds/brush, in the short term there would be a yellowing and then browning of treated vegetation, since treatments would be done while plants are green and actively growing. Only selected, scattered plants would be treated and color changes to this vegetation would be temporary. Also for a short time after treatment, treated plants may appear blue when viewed close up because a blue colorant would be added to the herbicide mixture. As time after treatment passes the blue, yellow or brown leaves of plants treated with herbicide would fade or fall off and the visual impact of dead leaves would not be noticeable. Most treated vegetation would be viewed from a vehicle while it is moving and would be in the distance. It is unlikely that the average person would even notice the changes in color of scattered, treated vegetation. Also see the effects section on herbicides.

For the discussion of the cumulative effects to visual quality the boundary is defined as all MNF lands over the last five years, as well as five years into the future.

As with other resources, the MNF attempts to minimize adverse effects to the visual quality of the Forest from its management activities. Various techniques are employed. For example, the number of acres of MNF forest stands regenerated by the “clear cut with residual trees” method has been reduced over the years. More regeneration cuts are using the two aged or shelter wood methods. Under these treatments more and larger trees are left in the cutting unit compared to a clear cut with residuals. Timber harvest units along open roads have the slash (tree tops and limbs from harvested trees) lopped and scattered within certain distances from the road to reduce the visual impact of these tree tops to the public. These tops may be provided to the public for firewood to remove them from the area. MNF structures such as entrance signs, foot bridges, or trail or picnic shelters, are designed to blend in with their natural surroundings.

The mowing of vegetation, as would occur under any of the alternatives, would appear similar to the cutting of hay that annually occurs on many acres of private hayfields in and around the Forest. Mowed vegetation would appear brown as it dries out and lays on the allotment. This effect is short term in that the living grass underneath soon grows up through the brown thatch and is overtopped by new green growth. This activity is considered by the public as a normal management activity and not as an adverse effect to the visual quality of the area. Many people enjoy seeing well managed agricultural land, as opposed to weedy, irregularly vegetated fields.

Under the Proposed Action, where use of a herbicide would result in some yellowing and browning of vegetation, there would be a short term, localized and non-substantial adverse effect to the visual quality of the Forest. The four areas proposed for treatment with herbicide would be treated at different times, are widely scattered, and are small areas compared to the size of the entire Forest. Individual trees and shrubs are constantly dying across the Forest from insect attacks, drought, lack of light, etc. Mortality of scattered shrubs from herbicide treatment would likely be interpreted by the average person as part of these natural events. It is concluded there would be a very slight, non-substantial adverse cumulative effect to the visual resource from the Proposed Action. This would be off set by the visual value of public lands with reduced quantities of noxious/non-native vegetation and their appearance as well managed lands.

Under the No Action and No Herbicide Use Alternative, no herbicides would be applied and no yellowing/browning of vegetation would occur from herbicide use. For these alternatives there would be no adverse cumulative effect to the visual resource of the Forest.

## **Noxious Weeds/Non-native Invasive Species (NNIS)**

Noxious/non-native invasive weeds and brush compete for soil moisture, sunlight, and soil nutrients with native or other more desirable species of plants. Over time and if left unchecked they can completely take over a site and convert the area to a different vegetation and habitat type, such as from grassland to shrub land or from non-forest to forestland. Noxious weeds are typically prolific seed producers, can grow in a wide range of growing sites, can out compete, and possibly hybridize with native or more desirable vegetation. They are so successful in invading a new area because the predators and parasites they evolved with in their native habitat and that help keep them in check do not usually occur at their new location.

Repeated overgrazing by livestock can substantially weaken or kill herbaceous vegetation, reduces vegetative cover, and exposes mineral soils. Under these conditions noxious weeds can more readily invade, germinate, and spread. The intent of the Monongahela National Forest's grazing program is to not overgraze. The grazing program endeavors to eliminate overgrazing by controlling the season of use, the grazing method, and the numbers of livestock so that sufficient vegetation remains. These efforts are undertaken not only so that other resources such as soils, wildlife, water, etc, are not degraded, but also to reduce the increase and spread of noxious weeds. Grazing management strives to maintain a cover of grasses and other herbaceous plants over the un-shaded and un-wooded portions of the grazing areas. Maintaining a healthy sod of herbaceous plants and their associated roots on these project areas helps suppress noxious weed seeds from germinating and growing. As discussed, various species of noxious weeds occur on the proposed project areas and their control would be beneficial to the environment.

Except for some mowing and grazing, there are no records of other types of treatments having been carried out for noxious weed control on these project areas in the past. Existing populations of noxious weeds have built up over many years on these four proposed project areas. Exactly how the current noxious weeds became established on these areas is uncertain and likely varies by the problem species. They may have established there before these areas came into government ownership. They may have invaded from adjacent private or public lands. They may have been brought in on vehicles or equipment, by people, livestock, or wildlife, or by the feeding of hay produced in other areas and containing weed seeds. For example, birds that eat the berries of autumn olive and multi-flora rose somewhere else may fly into an un-invaded area, deposit the seeds through their feces, and spread these plants to new areas. Since fence wires, power lines, and trees provide perches for birds, many noxious weed populations begin below these structures. Seeds may also be brought in by the wind, such as the dandelion-like seeds of thistles. The Proposed Action attempts to use a combination of cutting and herbicide to reduce existing numbers of noxious weeds in the project areas. This would also reduce the amount of noxious weed seed these plants are producing. A technical assistance report of April 19, 1982 indicates that multi-flora rose was a problem on the Callison/Clark grazing area even back at that time.

If no action is taken to control noxious weeds on these grazing areas, these pests would continue to spread and would reduce or eliminate valued native and/or preferred plant species. In the worst cases, unchecked noxious weeds can drastically alter community and ecosystem functioning. Reducing the spread of exotic/invasive plants helps maintain native plant populations and diversity within and adjacent to the National Forest.

Not using herbicides in the control of these noxious weed populations, such as in the No Action or the No Herbicide Use Alternatives, would make it nearly impossible to reduce existing populations of noxious weeds and their seed production. Woody target species such as multi-flora rose, autumn olive, barberry, and St. John's wort all sprout back after cutting. Cutting does not kill the remaining aboveground portion of the plant or its root system. In the short term, cutting reduces seed production, but over time, unless cut again and again at regular intervals, the plants re-grow, eventually mature and become seed producers once again. Compared to cutting only, proper use of herbicides known to be effective in controlling the target species, as proposed in the Proposed Action, is much more likely to eliminate, or severely suppress, the treated plants for a longer period of time with fewer re-treatments. Furthermore, herbicides more effectively eliminate individual plants, curtail seed production, and prevent further spread of the unwanted plants in fewer treatments than cutting alone, or compared to no treatment. This means less labor is needed, resulting in cost savings over the long term.

Since the herbicide proposed for use is systemic (is applied to the target plant as it is actively growing, is absorbed by the plants leaves and stems and is translocated to its roots) the treated plants' above and below ground parts are killed and do not sprout back as they do after just cutting. Only one or two herbicide treatments are usually necessary to eliminate these unwanted plants, as compared to repeated treatments over many years with the cutting-only method. The spraying of noxious weeds, such as multi-flora rose, with its thorny canes that grow up and through barbed and woven wire fences, is much easier and safer for the applicator than trying to manually cut and pull these plants out of the fences so that fence repairs can be carried out. Due to the unpleasantness of the task, finding people that would cut multi-flora rose by hand is difficult, labor rates for this type of work are high and injury to the workers is also high.

The herbicide selected for use in the Proposed Action is approved for use in aquatic sites. It could be used to control emergent aquatic vegetation growing out of the water, such as cattails. However, under the Proposed Action, this herbicide would not be applied directly to water. It was chosen because some of the noxious weeds proposed for treatment are growing near flowing water, such as along, or near, the banks of Cochran Creek, or within the Queens ditched wetland. Use of an herbicide approved for use in aquatic sites was considered more environmentally safe than one that was not.

The Land and Resource Management Plan for the Monongahela National Forest allows for the use of herbicides and contains standards and guides on how herbicide use, management, and coordination should be implemented on the Forest (see pages 58-60 of the Forest Plan). The President's Executive Order 13112 of February 3, 1999 on Invasive Species, Section 2, 2 directs, among other tasks, "Each Federal Agency....shall....use relevant programs and authorities....to....control populations of such species in a cost effective and environmentally sound manner". The West Virginia Noxious Weed Act of 1976 provides for the suppression or control of noxious weeds, which have proven to be, or which scientific evidence indicates, may become detrimental factors affecting the public health or economy of the state. Under this Act multi-flora rose has been declared to be a noxious weed in WV. In addition, Title 61 of the Legislative Rules, Department of Agriculture, for the State of WV, Series 14A, Rules and Regulations Dealing with Noxious Weeds, also declares that Plumeless Thistle, Curled Thistle, Musk Thistle and Autumn Olive (in 23 counties) are noxious weeds. The Rimel and Allegheny Battlefield Allotments, and the Callison/Clark Tract are all adjacent to private lands. As part of being a good neighbor, the Forest Service should control noxious weeds on their ownership so that they do not spread to private lands.

Under the No Action Alternative, and the No Herbicide Use Alternative, and even with cutting, noxious weeds/brush would continue to increase on the project areas and on surrounding lands. Without use of herbicides to more effectively control them, noxious weeds/brush may only get cut on these areas, and likely not often enough to prevent seed production. The cut plants would re-sprout, and if not re-cut at regular intervals over many years, would produce seeds which could then be carried to other portions of the project areas and to surrounding private and public lands to further infest these areas. On the Rimel Allotment, the mature multi-flora rose bushes growing within the fenced-out riparian zone along Cockran Creek and around the perimeter of the allotment would continue to grow up and through the barbed wire fences that surround the pastures and that restrict livestock from accessing Cockran Creek. This would continue to make it more and more difficult to maintain/repair these critical livestock control structures that protect the creek from livestock use. Not controlling the multi-flora rose within the fenced out riparian area at the Rimel Allotment would also reduce the quality of this area as a demonstration area.

Under the Proposed Action and the No Herbicide Use Alternative the proposed liming and fertilizing of selected portions of the grazing areas would invigorate existing vegetation, would assist this vegetation in competing with and against noxious weeds, and help in suppressing the germination of noxious weed seeds. Under the No Action Alternative, soil supplements would not be applied. Noxious weeds would not receive as much competition from more vigorously growing vegetation since soils would be less fertile.

For the discussion of the cumulative effects to noxious/non-native invasive species the boundary is defined as all MNF lands over the past five years, as well as five years into the future.

As international trade and travel continues to bring in new species of non-native, invasive species (NNIS) to the US the number of noxious or NNIS coming into West Virginia and onto the MNF would continue to increase and spread. NNIS is a growing issue both on public as well as on private lands. Although inventories of existing NNIS on the MNF have not been conducted to date personal observations indicate an increase in NNIS on the Forest for at least the past 15 years. For the past few years the MNF has received a small amount of funding for noxious weed/NNIS work. Most of this funding has been used to raise the awareness of Forest personnel to this issue and to train selected employees in NNIS data base operation. Some NNIS funds have been used to set back NNIS on the Forest through mowing, hand tool or chainsaw lopping. For example, in fiscal year 2003, 415 acres with noxious weeds were treated by cutting. This work was accomplished primarily on various grazing allotments. Monitoring of the plants that were cut indicate that the woody NNIS are sprouting back. This type of treatment alone is not successful in reducing these problem plants. Their seed production has been temporarily reduced but their seed production would move back toward past levels as time passes. NNIS growing in and adjacent to fence lines or in rocky, steep or wet areas cannot be controlled through tractor mowing and these plants usually go untreated. The ability to treat these non-mowable NNIS with herbicide would greatly assist in suppressing NNIS to a further degree on these areas. It appears likely that future funding for addressing NNIS will increase some degree. Additional funding could help fund such needs as NNIS inventories, training of additional personnel, EA preparation and additional NNIS control projects.

A few landowners in and around the Forest have been observed trying to control NNIS through various methods such as cutting/mowing, treatment with herbicide, or grubbing. However, on most properties, no control action of existing NNIS has been observed. There could be various reasons for

the lack of action to control NNIS on private lands. Possible reasons include: lack of awareness of the problem, lack of time and/or money to carry out control actions, inability to identify NNIS or lack of knowledge on how best to control these species. At present it appears there are no state cost share programs in West Virginia to assist landowners with control of NNIS. There are no indications that NNIS will not continue to increase and spread in West Virginia and on the MNF.

The biological control of NNIS, such as the release of foreign insects that prey on NNIS plants, or foreign diseases that attack NNIS plants, will affect NNIS in West Virginia and on the MNF to a greater degree as time passes. Some biological control agents for selected NNIS have already been released in West Virginia or on or near the MNF and are known to occur on the Forest. Some of the biological control agents that have been released in other parts of the country have spread, or will eventually spread, into West Virginia and into the Forest. See item 2 on page 16 for additional information and discussion on this aspect of noxious weed/NNIS control.

Because it is felt that the use of an herbicide would be more effective in reducing noxious/NNIS plants over a longer time period on the four project areas, and on the Forest as a whole, as compared to cutting alone, it is concluded that the cumulative effect to NNIS from the Proposed Action is positive. The No Action Alternative and the No Herbicide Use Alternative would also have a positive cumulative effect to NNIS, but to a much lesser degree than the Proposed Action because cutting of NNIS is so much less effective in controlling NNIS than herbicide treatment.

## **Recreation**

By providing habitat diversity and important and relatively uncommon habitat for several game species, such as woodcock, wild turkey, ruffed grouse, black bear and white-tailed deer, grazing areas and adjacent woodlands are frequently used by sportsmen for recreational hunting with both archery equipment and firearms. The habitat that grazing areas provide attract and produce selected species of both game and non-game wildlife for wildlife viewing by the public. Examples include various species of songbirds not found in larger tracts of forested land, some raptors species such as red-tailed hawks and horned owls, large and small mammals such as red foxes and meadow voles, and reptiles such as black rat snakes. Maintaining these four project areas in an open, herbaceous condition and adding soil supplements to them, such as proposed in the Proposed Action and the No Herbicide Use Alternative, improves forage quality for wild herbivores, as well as for livestock. Grazing allotments provide open space for recreation use and enjoyment as well as scenic/visual diversity for Forest visitors. Non-forest areas provide a location for kite flying. Some allotments are used quite heavily for cross country skiing when snow conditions allow.

Being a high elevation allotment, with a low-standard, ridge top road within it that is open to the public, the Allegheny Battlefield Allotment provides scenic panoramic views of the surrounding countryside to picnickers, photographers, hikers, mountain bikers, and those with four wheel-drive/sport utility vehicles. The Allegheny Battlefield Allotment makes up a portion of the Civil War Allegheny Battlefield. Containing the remains of earthen trenches and stone chimneys constructed by soldiers during the Civil War, as well as two old cemeteries dating back to the 1800's, the Allegheny Battlefield Allotment provides the public with opportunities to visit these historic sites. Just across the road (State Route 3) from the Allegheny Battlefield Allotment is the "Camp Allegheny" interpretive facility. Off road parking and an interpretive sign, showing the location of the battlefield, trenches, gun emplacements and other remaining Civil War features are mapped and

discussed. At intervals the MNF, working cooperatively with other partners, conducts Civil War Reenactments. The Allegheny Battlefield Allotment has been a reenactment site in the past and could be used again in the future. Without using grazing or other methods such as mowing, hand cutting, bulldozing, or herbicides to slow forest succession and prevent the growth of trees and shrubs on this area, this open, grassy area would more quickly grow up into woodland and would lose its present recreational/historical value. The open expanse of the portion of the battlefield that is on adjacent private land, as well as its associated gun emplacements and trenches, could not be observed from the allotment if the allotment grew up in trees. If this allotment grew up to shrubs and trees the public would be less able to envision where and how the battle occurred and why this location was considered strategic and was selected for military occupation.

The parking lot and interpretive sign at the Rimel Grazing Allotment also provides a recreational/educational opportunity for Forest visitors.

In the No Action Alternative, because the non-preferred, group/reunion type camping within the Queens Allotment may not be restricted by the Forest Service, the amount of dispersed camping taking place on the Forest would not change. Compared to not allowing any group/reunion camping, this would increase the amount of human disturbance to wildlife using the area and the value of the area to selected species of wildlife would be reduced. Under the Proposed Action and the No Herbicide Use Alternatives, the non-preferred group/reunion camping within the Queens Allotment would be restricted. This would either decrease by a very slight degree the amount of dispersed camping taking place on the Forest annually, or change the location of where this group camping occurs.

The blooming wildflowers and associated bees and butterflies, and the fruits from apple trees and blackberry and blueberry plants found on these allotments, also attract forest product gatherers. Because of a concern for human safety camping is normally not promoted in grazing allotments on the National Forest during the time livestock are within the allotment. Although there are no known instances, it is possible that bulls, or cows with calves, could injure people, especially children, who may not know how to react to livestock.

Reducing sediment and nutrients to surface waters through fencing out of the wetland and riparian areas of the Queens Allotment, as would occur under the Proposed Action and the No Herbicide Use Alternatives, would help maintain aquatic resources in the Shavers Fork, including recreational fishing. Also see the effects section on visual quality. Since under the No Action Alternative the Queens Allotment would not be grazed, and has not been grazed since 1994, there would be no change to the aquatic resources and recreational fishing of the Shavers Fork from implementation of this alternative.

For the discussion of the cumulative effects to recreation the boundary is defined as all MNF lands over the past five years, as well as five years into the future.

Recreational activities can be divided into activities associated with developed sites, such as visitor centers or campgrounds with amenities/facilities, or activities that occur without close association with developed sites or facilities. Because grazing allotments do not contain developed recreation sites or facilities all recreation associated with allotments is considered dispersed recreation. Recreational activities that take place in and around the four proposed project sites are just a small part of the Forests total dispersed recreational use. Each year, as the Forest continues to maintain or

upgrade areas associated with dispersed recreation, such as filling mud holes in access roads that provide vehicle access to dispersed camping areas, improving signage on the Forest, or black topping roads, the level and quality of dispersed recreational opportunities improves incrementally on the Forest.

Mountain biking and the operation of mountain bike outfitter guides has increased on the Forest over the past several years. However, except for the Allegheny Battlefield Allotment that contains a road system within the allotment that is open to the public, mountain biking is not a significant recreational use on the other three grazing areas. None of the proposed project areas are in wilderness. There are no plans by the Forest to greatly increase its promotion of dispersed recreation opportunities on the Forest in the near future. It is concluded that under any alternative there would be no substantial adverse cumulative effects to recreation on the MNF.

## **Wild and Scenic Rivers**

Of the four proposed project areas, only the Queens Allotment occurs within the one-fourth mile zone on each side of a river that has been considered for wild and scenic river designation. The Queens Allotment occurs along the east side of the lower Shavers Fork River approximately five miles south and upstream from the town of Parsons, WV. There is a wooded buffer zone between the river and the allotment's boundary fence. The allotment is above the surface of the river and the allotment is not viewable from the surface of the river. It is unlikely that persons floating down this section of the river would observe that the allotment is nearby. The Lower Shavers Fork was identified in the Nationwide Rivers Inventory of 1982 as a potential wild and scenic river. The finding in the Monongahela National Forest Draft Wild and Scenic River Study Report and Environmental Impact Statement of 1995 indicates that the Lower Shavers Fork within the vicinity of the Queens Allotment is eligible for Scenic River classification.

Findings of Scenic Eligibility for this segment indicate that although there are a number of low standard roads, seasonal residences, and agricultural uses which have locally modified shorelines, the overall impression to the river user is that the river is largely primitive and the shoreline is undeveloped.

Generally, livestock grazing and related structures do not affect wild and scenic river designation. River management guidelines indicate that livestock grazing should be similar in nature and intensity to those present at the time of designation. Livestock grazing is permitted under wild, scenic, or recreational classifications, but should be managed to maintain the values for which the river is designated, or in this case, eligible.

The Queens Allotment existed at the time of the Nationwide Rivers Inventory as well as during the Findings of Eligibility and Classification for the Lower Shavers Fork River. Therefore, the Proposal to make some adjustments to allotment structures, such as fences, would have no adverse effect on the free flowing condition or the outstanding and remarkable scenic and recreational values of this potential wild and scenic river segment. Under the Proposed Action and the No Herbicide Use Alternative, proposals such as excluding from the Queens Allotment the southwest portion of the allotment that presently is in the floodplain of the Shavers Fork by constructing a section of new fence on the terrace above, would further reduce the likelihood of observing a fence from the bank or surface of the river because the new fence would be farther away from the river. The proposal to



restore and fence the wetland and riparian areas in the Queens Allotment would be out of sight from the river and would further protect the water quality of this segment of the Shavers Fork

Under the No Action Alternative, the probability of seeing some allotment fence from the river would be the same as the current condition, and especially during the leaf off period, because the portion of the Queens Allotment that currently is in the floodplain would remain part of the allotment.

For the discussion of cumulative effects to wild and scenic rivers the boundary is defined as the portion of the Shavers Fork River from 50 yards upstream to 50 yards downstream of the Queens Allotment, and from five years in the past to five years into the future.

Since none of the alternatives would change the existing condition of the forested buffer zone between the Queens Allotment boundary fence and the Shavers Fork River it is concluded there would be no adverse cumulative impacts to eligibility for scenic river classification of the lower Shavers Fork River from any of the alternatives.

The discussion below has been added to this EA to address an issue brought up by Jim Bensman/Heartwood during the 30 day public review and comment period.

The Queens allotment occurs east of the Shavers Fork River. Segment 7 of the Shavers Fork (from State Route 33/8 to Jobs Run near Porterwood , 21.9 miles) that flows nearby the Queens allotment was determined to be eligible for Scenic designation. Page 3-6 of the report ( Draft Wild and Scenic River Study Report and Environmental Impact Statement on Twelve Rivers in the Monongahela National Forest) states, in discussing outstanding remarkable values, for segment 7 of the Shavers Fork, “Although this section has a number of relatively low standard roads, seasonal residences, and agricultural uses which have locally modified shorelines, the overall impression to the river user is that the river is largely primitive and the shoreline is undeveloped”.

The 50 acre Queens allotment was in place during the time that segment 7 of the Shavers Fork was determined to be eligible for Scenic river designation. There is a wooded buffer zone between the river and the allotment. If one is on the river the allotment is not visible because of this wooded buffer zone and because the allotment is above the surface of the river and it has a back round of trees behind it.

Although the EA does not propose to discontinue the Queens allotment, except in the No Action Alternative, the proposed action/preferred alternative would enhance the outstanding remarkable values for which the river segment was found eligible. The proposed action/preferred alternative would exclude a portion of the allotment in the southwest part of the allotment that is currently within the floodplain of the Shavers Fork. A new section of allotment boundary fence would be constructed along the top of the terrace above the floodplain/riparian zone. If this was done, a portion of the Queens allotment boundary fence would be farther away from the east bank of the Shavers Fork than it currently is, making the barbed wire fences and the allotment even more unlikely to be observed by persons while on the river. The proposed action/preferred alternative also proposes to fence out the Queens wetland, the springs that feed it, and the ditches that currently drain it. It also proposes to restore the wetland by plugging the ditches that drain it and by replacing the material that

was removed and sidecast when a ditch through the center of wetland was created to drain it. Doing so would improve the water quality of the Shavers Fork, as well as the recreational fisheries of this river, and would further enhance the Outstanding Remarkable Values for which the river segment was found eligible.

The majority of the lands on either side of the river in the vicinity of the Queens allotment, including the land directly across the river from the allotment, are in private ownership with their associated buildings, roads, agricultural fields, fences, etc. These uses will likely remain. Therefore, the outstanding remarkable values that make segment 7 of the Shavers Fork eligible for designation under the Wild and Scenic Rivers Act will not be adversely impacted.

## **Fragmentation**

Because the proposed project areas are already primarily non-forested, herbaceous, open lands, and have been grazing land for many years, there would be no increase in fragmentation to the environment from any of the alternatives. No new clearing of lands that are presently forested are proposed in any of the alternatives. If wetland and riparian areas are fenced out from grazing in the Queens Allotment, as proposed in the Proposed Action and the No Herbicide Use Alternatives, through time, forest succession may convert these areas to shrub land or woodland. This would increase the amount of edge between woodland and open land on the Forest by a minute amount.

For the discussion of the cumulative effects to fragmentation the boundary is defined as all National Forest land within one half mile of the four proposed project areas in the last five years, as well as five years into the future.

There are no plans to convert any presently forested National Forest land within one half mile of the four proposed project areas to non-forest land. If plans were to be approved (none known at this time) to harvest timber from some of the National Forest land within one half mile of any of the proposed project areas the effect on forest fragmentation would depend on the type of timber harvest proposed. For example, a clear cut with residuals, where most harvestable trees would be removed, would fragment the area more so than a selection cut or a thinning, where single trees are removed. However, any fragmentation caused by timber harvest would only be temporary in that the area harvested would grow back to trees through time and the change from having trees to not having trees would not be permanent. Conversion of an asphalt parking lot from a wooded area is considered an example of permanent fragmentation. It is concluded that none of the alternatives would have a cumulative adverse effect to forest fragmentation.

## **Herbicides**

Because portions of some of the proposed project areas contain a wetland or riparian areas, or have creeks or rivers nearby, and because the Forest desires to minimize any adverse effects from the use of an herbicide to natural resources such as water, wetlands, or fisheries, the use of a herbicide that is approved for use near water was considered highly desirable. Rodeo, or an equivalent product, (a form of glyphosate) was selected as the herbicide of choice because of its low toxicity and its approval for use in water by the EPA. Although this herbicide can be applied to the surface of water, such as in controlling emergent aquatic vegetation, under the Proposed Action it would not be

applied to surface water. However, some of the noxious weeds proposed for treatment grow along the edge, and in some cases have branches that hang over open water, such as the multi-flora rose along Cockran Creek.

The active ingredient in Rodeo is glyphosate. Rodeo is labeled for use in aquatic sites and on non-crop areas, including rights-of-way, pasture/rangeland, wildlife openings, recreational areas, industrial sites, etc. The Environmental Protection Agency's (EPA's) registration number for Rodeo is 524-343. Rodeo is an emerged aquatic weed and brush herbicide. Other brand names of herbicides with an active ingredient of glyphosate include Accord, Accord Site Prep, and Roundup. Roundup is the over the counter herbicide sold to millions of homeowners for use on their lawns and gardens. Roundup contains a surfactant, while Accord and Rodeo do not. Rodeo contains 46.5% water and 53.5 % isopropylamine salt of the active ingredient N-phosphonomethyl glycine. Glyphosate is a growth inhibitor. It is non-selective and will kill grasses as well as broad-leaved plants. Rodeo should be sprayed on foliage when target vegetation is actively growing. When sprayed on a plant it is absorbed by the foliage and translocates throughout the plant, eventually accumulating in the roots. Glyphosate is not soil active and is not mobile in the soil. It is strongly adsorbed to soil particles and organic matter. It is deactivated rapidly by muddy water or water with a high calcium content. Glyphosate is decomposed by microbial activity, having a moderate half-life of about 60 days. Glyphosate has a low toxicity to humans and wildlife and is considered slightly toxic. Glyphosate has an oral LD 50 (lethal dose to kill 50% of a rat population) of 4,320 mg/kg. The LD 50 for the Rodeo form of glyphosate is > 5,000 mg/kg. In comparison, the oral LD 50 for aspirin is 1,700, for vitamin B3 is 1,700, for household bleach is 2,000 and for table salt is 3,750. The 96 hour LC (lethal concentration) 50 for rainbow trout and bluegill is > 1,000 milligram per liter. There is no evidence that glyphosate is carcinogenic or mutagenic. Rodeo, which out of the container contains almost 50% water, would be mixed with additional water before application and further diluted. This further reduces the concentration of active ingredient applied to an area. A 3/4 % solution of Rodeo would be used. This is created by adding 1 fluid ounce (or two tablespoons) of Rodeo (already 46.5% water) to one gallon of water. This rate is much lower (40%) than the maximum rate allowed by the label of 7.5 pints/acre.

The label for Rodeo recommends that a nonionic surfactant be added to the spray mix. A surfactant increases the emulsifying, dispersing, spreading and/or wetting properties of an herbicide product. It is not mandatory that a surfactant be used with an herbicide, and if a surfactant is not used it does not violate the herbicides label. There are several nonionic surfactants available for use. After review of the information about the various nonionic surfactants, the one selected for use with the proposed Rodeo application is Sun Wet. Sun Wet is a blend of methylated sunflower seed oil and emulsifiers. It is not listed as a carcinogen. OSHA classifies this nonionic spray adjuvant as non-hazardous. Based on the label the recommended amount of Sun Wet to use in spray mixes is 1.5 pints to 2 quarts per acre sprayed.

Since surfactants are not known to be approved for aquatic use, the Proposed Action proposes that Rodeo sprays used to treat noxious weeds that are growing within 50 feet of open waters not contain a surfactant. This would minimize any potential adverse impacts from surfactants to water resources. However, without the use of a surfactant, the effectiveness of the herbicide would be reduced. These areas are more likely to require follow up treatments (see mitigation measures, item 7 L, page 18).

As discussed in the mitigation measures, if the Proposed Action is chosen as the preferred/selected alternative, a colorant would be added to the spray mixture to reduce the chance of a target plant

being treated more than once and to keep track of plants and areas treated. The colorant would be Bullseye, blue spray pattern indicator. This colorant is biodegradable and non-staining. The product label contains no hazard symbols and there are no indications of danger in using this product.

To control noxious weeds that may be missed during the initial herbicide treatment, and to retreat those plants that may not have been totally killed and are found to be sprouting back, follow up treatments one to three years after the initial treatment may be necessary. This would be determined by monitoring the project sites after the initial treatment.

If herbicides are used, treated plants would be killed or injured. Since treatments would be done while plants are green and actively growing, in the short term, there would be a gradual wilting, then yellowing, then browning of treated vegetation. Visible effects to woody plants from glyphosate application occur 30 days or more after treatment. Perennial herbaceous weeds, such as thistle, show coloration changes seven or more days after treatment. As wind and rain acts on the browned leaves of woody plants, these dead leaves fall to the ground and are no longer observable from a distance. The leafless branches and stems of treated woody vegetation would be visible at close range for a year or more, depending on their diameter and how long it takes them to decay and fall to the ground. Dead branches and stems of invasive shrubs would not be visible from a distance, and less so from a moving vehicle. None of the project areas, except the Rimel Allotment, is viewable from a frequently traveled major highway. At the Rimel Allotment, the riparian area along Cockran Creek (where most of the multi-flora rose proposed for treatment occurs) is across and on the backside of the front pasture (pasture 1). This area is not immediately adjacent to Highway 92. Most of the treated vegetation would not be seen close up by people driving past. In addition, there is a corridor of woody vegetation between the highway and most of the allotment boundary fence. Most of the woody vegetation between the highway and the allotment boundary fence would not be treated and would shield the treated vegetation from the view of the public driving past the allotment.

The colorant planned for use in the herbicide spray mix is dark blue. This spray pattern indicator turns whatever is covered by the spray solution dark blue. This colorant is water-soluble and non-staining, and is broken down by sunlight and microorganisms. It gradually fades after application so that after approximately one week, depending on rainfall/dew, amount of sunlight, amount of dye used, amount of spray solution applied, etc. it is no longer detectible even up close. Its purpose is to indicate if applicators get the spray on their person and to indicate which portions of vegetation have received spray. For the first day or two after treatment, vegetation treated may appear blue to persons viewing treated vegetation from a close distance. Persons driving by an area that has been treated would be several yards from the closest treated plant, and would not normally notice the colorant on the treated plants. Visibility of the colorant also varies by time of day/sun angle. Treated plants that occur in the mid-ground or background would not be observable as dark blue to those driving past. As mentioned earlier, only the Rimel Allotment is along a well-traveled state highway and the majority of noxious weeds to be treated in this allotment are well away from the highway and in the mid-ground view. Any visual impacts from the use of the colorant would be short term and non-significant.

Since most noxious plants proposed for treatment with the herbicide are woody shrubs, use of herbicides would reduce the amount of woody plants on the proposed project areas and in time would increase the amount of herbaceous plants. The reduction in woody plants would provide more nutrients, light, and water for herbaceous plants to use. Treating such soft-mast producing noxious brush as multi-flora rose, bush honeysuckle, and autumn olive would decrease the amount of soft

most available for selected wildlife species in the local area. Since some species of wildlife use multi-flora rose and other noxious shrubs for escape and nesting cover, escape and nesting cover for selected species of wildlife inside and adjacent to the grazing areas would also be locally reduced. Since noxious weeds and brush, such as multi-flora rose, autumn olive, thistle, and Saint John's wort produce flowers that are used by nectar feeding insects such as bees and butterflies, there would be fewer flowers for these insects to feed on after noxious weed control is carried out. Rodeo is an herbicide and not an insecticide, is absorbed by the plant and should not adversely affect insects such as bees and butterflies. There are additional noxious weeds outside the allotments that would not be treated that would still be available for wildlife that utilize soft mast or nectar for food, or that nest or hide in shrubs. Native plants that produce soft mast or nectar for food, both inside and outside the grazing areas, would remain and likely would prosper from the removal of NNIS.

Rodeo should be applied until leaves are wet, but not to the point of runoff. Therefore, adverse effects from the spray dripping off the leaves and branches of the woody shrubs proposed for treatment to non-target herbaceous vegetation growing underneath them should be minimal. Of course, if the herbicide were improperly applied, it would adversely affect non-target species of vegetation growing below treated plants. Drift of the herbicide is expected to be minimal due to restrictions on spray droplet size and wind speed during time of application.

The proposed combination of cutting and herbicide treatment of noxious weeds would not totally eliminate the target noxious weeds from these sites forever. They could re-invade the project sites from adjacent untreated areas. Seeds previously deposited on these sites are likely to continue to germinate and grow after treatment. Some noxious weed seeds may stay viable in the soil seed bank for over 10 years before germinating. Due to their thorns and spines, livestock and wildlife do not usually eat the leaves or branches/stems of older/mature multi-flora rose or thistle. Saint John's wort causes sensitization to sunlight, especially to light skinned and/or coated livestock and is also usually avoided as forage. The likelihood that livestock or wildlife would consume a sufficient amount of treated foliage or branches/stems of target plants and become sick is extremely low.

Because only individual plants of selected/target species would be treated (individual stem or spot treatment) only a small percentage of the total area of the four proposed project areas would actually be treated with herbicide. This would minimize exposure to humans, wildlife and the environment.

When glyphosate comes in contact with soil, or with suspended sediment in water, it is bound to soil particles. This prevents the product from leaching into the groundwater or in moving to another site.

Since noxious weeds continue to produce seed and to spread further each year, it is less expensive to control these unwanted plants now, rather than later, when they would cover more area and contain more plants per acre. Furthermore, due to their more developed root systems, more mature plants are usually more difficult to control than young plants.

For more information about glyphosate/Rodeo, such as the risk assessment, product label and material safety data sheet, see the USDA, Forest Health Protection, Pesticide Management and Coordination website at <http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>. For the risk assessment for humans, wildlife, and aquatic species, also see the Final Environmental Impact Statement for Vegetation Management in the Appalachian Mountains, Volumes 1-3, and amendments, USDA, Forest Service, Southern Region, July, 1989.

Under the No Action Alternative and the No Herbicide Use Alternative, current legislative and regulatory direction relating to noxious weeds would not be met. Without the use of herbicide to control the existing noxious/non-native weeds in the project areas, there would be long term decreases in productivity of native and/or preferred vegetation, wildlife and wildlife habitat, and grazing lands/forage, and these weeds would continue to proliferate.

The mitigation measures developed for how herbicide should be applied should further reduce potential impacts to applicators, wildlife, the public, and the environment.

For the discussion of the cumulative effects from the use of Rodeo the boundary is defined as all MNF lands in both the last five years and in the coming five years.

There are no records that any type of herbicide has ever been used on any of the four proposed project areas. Relatively small amounts of herbicides are used across the MNF in any one year. In the recent past triclopyr/Garlon has been applied in a few selected forest stands to control striped maple and occasionally beech sucker sprouts. Glyphosate/Roundup has been used to control poison ivy in developed recreation areas and around administrative sites on the Forest. In future years it appears that silvicultural use of herbicides on the Forest would remain near current levels. The use of herbicides at recreation and administrative sites would also remain low. The one area where use of herbicides is expected to increase on the Forest is in the control of non-native, invasive, noxious weeds, as is being proposed in this EA. The Chief of the Forest Service, with support from the Regional Leadership Team, have determined that invasive species is one of the four great issues that the Forest Service faces today. Much more emphasis would be placed on controlling and eliminating non-native invasive species on National Forest lands in the future. The use of herbicides would be one of the several tools that would be proposed to accomplish this work.

Only the Proposed Action would use an herbicide to control NNIS. Based on the type of herbicide to be used and the mitigation measures developed for its application it is concluded that there would be no substantial cumulative adverse effects to the environment from the use of Rodeo, or its equivalent, on the four project areas. The No Action Alternative and the No Herbicide Use Alternative would have no cumulative adverse effect to the environment from herbicides because under these alternatives no herbicides would be applied.

## **Economics**

Continuing the grazing of livestock on the proposed project areas would provide some local farmers with summer pasture for some or all of their livestock. This allows them to use their own lands for the production of winter feed for their livestock, or to operate a larger livestock operation/herd than they could with just their own property. Most Monongahela National Forest allotments are cow-calf operations where a herd of cows produce calves each year. Income is obtained from selling the calves. The brood cows are maintained over the winter for calf production the following year. Calves produced can also replace old cows in the herd that are no longer productive, replace cows that have died or have been culled from the herd and sold, or to build a larger herd. Money received from the sale of calves is turned over many times in the area which maintains and/or stimulates other aspects of the local economy. If these four grazing allotments were discontinued the farmers using them might go out of business or have to reduce the size of their livestock operation because they would not have enough of their own land to support their existing herd year round. They would be more apt to sell their land. These private lands could very well end up being subdivided for houses or

developed for other uses. This would further reduce the amount of habitat available for wildlife, increase fragmentation, and decrease biodiversity.

Because none of the proposed project areas are fenced completely with woven wire, sheep and goats cannot be grazed on them, nor used to control non-native invasive species within them. Depending on whom the high bidder is on these areas, horses, rather than cattle, could be grazed on some of these project areas. In some instances, permittees grazing horses on National Forest allotments operate commercial horseback riding stables in the local area. Such allotments help these small business owners in maintaining their riding stock and in reducing their need to purchase feed or additional land to maintain their riding stock and business. Such riding stables diversify the local tourist/recreation economy in and around the National Forest. Local contractors/businesses would financially benefit from the operation of these four proposed project areas when they are hired to accomplish improvement work on these areas such as applying lime or cleaning out watering ponds. The management of these areas assists in providing full time employment for four Forest Service employees that spend their salaries in the local area. Some farmers that obtain National Forest grazing permits are of low income and/or disabled and their ability to use these areas help to increase their annual income.

Permittees grazing on National Forest allotments pay an annual grazing fee to the U.S. Treasury. Under all alternatives, except the Queens Allotment under the No Action Alternative, these areas would be advertised to the public under competitive bidding and the allotments would be provided to the highest bidder. Bids received vary by the location of the allotment, the condition of its facilities, the quality of the forage, etc. Bids as high as \$12.00 per animal, per month, have been received for Monongahela National Forest grazing allotments. Competitive bidding results in more money going to the federal treasury and in the government more likely receiving fair market value for its forage. It is more economical to maintain existing non-forested/early seral/herbaceous areas, such as these grazing areas, to provide habitat for selected wildlife species than to create new, herbaceous habitat for use by wildlife from presently forested land.

Under the No Action Alternative, the Callison/Clark Grazing Special Use Permit Area would not be offered to the highest bidder under competitive bidding and would not be converted to an allotment. Forest Plan direction to convert special use pastures to grazing allotments would not be implemented. The grazing fees received by the federal treasury would be less if grazing continued on this area under a grazing special use permit. Improvement work through the use of fee credit agreements could not be carried out on the area if the area remained a special use permit grazing area.

The scenic vistas and visual diversity that grazing allotments provide assist local communities in maintaining or improving their tourism industries, such as mountain biking, recreational driving, and hunting. The Rimel Allotment, with its interpretive sign and parking area, provides an educational opportunity for the visiting public. The Allegheny Battlefield Allotment, being one of the stops of the "Battlefield Tour" on the Forest, attracts tourists to the local area, especially during the Civil War Reenactments that are held on the Forest.

Permittees are required to maintain existing allotment facilities with their own labor. The Forest Service may provide major materials, such as fence posts and fence wire to the permittee for repairs. This reduces the cost to the government in managing the vegetation on these areas. Local farm supply businesses benefit from the purchase of grazing related materials and supplies.

Noxious weed control costs, based on 1996 costs, for the following methods include: chemical - \$60/acre, manual - \$90/acre, mechanical - \$90/acre, fire - \$286/acre, and biological \$15-\$1000/acre, depending on the weed species to be treated, and assuming a biological control method is available for that particular species of noxious weed. Under the Proposed Action, noxious weed control costs might be higher because a combination of manual and/or mechanical along with herbicide control could be used. These herbicide costs would not be incurred under the No Action Alternative or under the No Herbicide Use Alternative. However, if noxious weeds are not effectively controlled, forage quantity and quality on these grazing areas would continue to decline. This would reduce the grazing capacity of these areas which would eventually affect the grazing fees generated. Non-native invasive species would continue to increase.

Recreational activities occurring within and adjacent to allotments, such as hunting, wildlife viewing, viewing scenery, fruit and berry picking, photography, etc. help stimulate the local economy as participants purchase supplies and equipment, vehicle fuel, licenses, food and lodging, etc.

For the discussion of the cumulative effects to economics the boundary is defined as all MNF lands both five years into the past and five years into the future.

Compared to the total size of the local economy and compared to the other activities that occur on the MNF that produce revenue to the Federal Treasury or to the local economy, such as the sale of timber, mineral leasing, or recreation, effects to the local economy from these four proposed project areas is extremely small. Although only incrementally, the four proposed project areas assist in diversifying, and therefore stabilizing, the local economy. It is concluded that implementation of any of the alternatives would have a very minor but positive effect to the local economy.

## **Birds of Conservation Concern**

This section of the EA has been prepared in response to the President's Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds" of January 10, 2001.

Based on the document "Birds of Conservation Concern 2002" (US FWS, December 2002) the Monongahela National Forest and the state of West Virginia occur within the "Appalachian Mountain" Bird Conservation Region, (BCR) 28. There are 27 species of birds that are listed as birds of conservation concern for the Appalachian Mountain Bird Conservation Region.

To simplify a discussion of the effects of the alternatives on these 27 bird species these species have been grouped by the type of habitat they use (species using forested habitat, species using non-forested habitat or young forest/brushy habitat, and species using both forested and non-forested habitat) . A description of each of these species habitat is provided below.

### Species using forested habitat

Kentucky Warbler – dense under story of mature, humid deciduous forest, wooded ravines, oak-pine or northern hardwood forest



Louisiana Waterthrush – along streams flowing through heavily wooded valleys, deciduous forest, some hemlock, northern hardwoods

Swainson's Warbler – dense understory under an older forest, rhododendron or mountain laurel thickets in woods, mostly found in the south and west part of the state

Worm-eating Warbler – mature deciduous woodland that lacks dense ground cover, mature beech-maple or oak-pine forest

Cerulean Warbler – mature forest, mixed mesophytic and oak forest below 600 meters in elevation, common in the west part of the state, sparse in the mountains

Wood Thrush – mature or near mature deciduous forest, except pure spruce, prefers dense shade on forest floor

Acadian Flycatcher – mature mixed deciduous forest dissected by small streams and ravines, lower elevations, not in spruce, oak or pine forest, nests over water, more common in the west side of the state

Yellow-bellied Sapsucker (breeding populations only) – upland black cherry forest, cut over mature hardwoods, spruce-hardwoods

Whip-poor-will – mixed deciduous woods, upland oak-hickory forest, not in spruce, hardwood-pine or hardwood-hemlock, few in northern hardwoods, rare in dense forest

Northern Saw-whet owl (breeding populations only) – spruce and mixed spruce-hardwoods, swampy areas in coniferous forest, high elevations

Black-billed Cuckoo – northern hardwoods, cove hardwoods, oak-hickory forest

Prothonotary Warbler – swamps (wooded wetlands) and large streams, not in the highlands

Red-headed Woodpecker – open oak groves with little understory, groves of oaks and grazing lands, Ohio River valley and low elevations in the Allegheny mountains

#### Species using non-forested habitat or young forest/brushy habitat

Upland Sandpiper – grass, old field habitat, grassy mountain tops and reclaimed surface mines, pastures, airports, golf courses

Buff-breasted Sandpiper – short grass, not listed in the WV breeding bird atlas, accidental/hypothetical to WV. Nests in the arctic shores of Alaska and Canada. Winters in the pampas of Argentina. Migrates up the Mississippi Valley and to the west.

Short-eared Owl – extensive open grassland, meadows, prairies, plains, marshes, dunes, tundra, not listed in the WV breeding bird atlas

Olive-sided Flycatcher – in openings in northern spruce forests, such as bogs, old beaver ponds, burned over slash from lumber operations with scattered snags and trees for perches

Sedge Wren – wet grass and sedge meadows, nests near surface of water, needs wetlands, grassy marshes

Henslow's Sparrow – grassy, weed filled fields, fields of broom sedge and weeds, early years of plant succession

Bachman's Sparrow – brushy overgrown fields, abandoned pastures growing up in shrubs, often in erosion gullies in steep hill sides, much un-used habitat remains

Bewick's Wren – dry open country in valleys east of the mountains, in small clearings in spruce at high elevations, brushy thickets, favors old farm buildings, old farmsteads, competition from House wren, very local or extirpated

Prairie Warbler – young pine forests and brushy scrub, young second growth hardwoods, overgrown pastures, Christmas tree plantations

#### Species using both forest and non-forest habitat

Peregrine Falcon – nests in cliffs, bridges over water, or high rise buildings in urban areas. Feeds over fields, forest, or urban areas by catching birds during flight

Golden-winged Warbler – low, brushy second growth forest and open woodland, especially powerline rights of way, higher elevations, not in spruce, hybridizes with the Blue-winged warbler

Chuck-will's-widow – open woodland and clearings near agricultural country, open country for foraging and pine or mixed woodlands for nesting, no nest records from the state, mostly found in western hills portion of the state

#### Species not applicable to the MNF

Red Crossbill (southern Appalachian populations only) – not applicable to WV or the MNF

Black-capped Chickadee (southern Blue Ridge populations only) – not applicable to WV or the MNF

As one may see from the information above, 12 (48%) of the 25 species of birds of conservation concern in the Appalachian Bird Conservation Region that are applicable to the MNF and WV use non-forested or young forest/brushy habitat, or a combination of forest and non-forested habitat. Thirteen species (52%) use only forest habitat. Two species are not applicable to the MNF or WV.

The proposed maintenance of the four proposed project areas in an essentially non-forested condition, either through the use of livestock grazing and cutting/mowing of noxious weeds and brush, such as under the No Action or the No Herbicide Use alternatives, or through the use of a combination of livestock grazing, the use of herbicide to control noxious/non-native invasive species of weeds and brush, and the use of cutting/mowing, such as under the Proposed Action, should,

overall, be beneficial to those species of birds of conservation concern that use either non-forested or young forest/brushy habitat, or a combination of forest and non-forest habitat. The habitat types these species use would be provided. Although each of the proposed project areas are unique and vary in size and vegetative structure and composition, each of the proposed project areas is likely to contain some individual or clumps of trees, some odd areas with trees and brush that would not be cut or mowed or treated with herbicide, some fenced riparian areas containing trees and shrubs, and/or brushy edges between the grazing area and the adjacent woodland, for use by these species. Portions of the proposed project areas would also be treeless and contain shorter herbaceous vegetation for those species that prefer this type of non-forest habitat. The existing or proposed fenced riparian areas, livestock ponds, and wetlands, provide various types of vegetative cover near open water for those species that require such habitat conditions for nesting. Maintaining the proposed project areas in mostly an herbaceous/non-forest condition provides a diversity of vegetative structure and composition within a larger matrix of forested land for use by a wide variety of birds and other wildlife species. The proposed cutting/mowing and/or herbicide treatment of noxious/non-native invasive shrubs would in the short term reduce to some degree the amount of soft mast production, perches, and nesting habitat for some species of birds. However, the proposed project areas are constantly changing in vegetative structure and composition through time. These areas are constantly being re-invaded by new trees and shrubs from adjacent wooded areas through forest succession. Because non-forested areas are considered an important and under-represented habitat type for selected species of birds, such as the 12 species of conservation concern that require non-forested habitat, maintaining these areas in an primarily non-forest condition is considered more important overall than completely losing these areas to forest through time through forest succession because of a concern about changing the amount of soft mast, perches or nesting habitat they contain. Native species of vegetation within and adjacent to the project areas would continue to provide some soft mast, perches and nesting habitat for use by these bird species.

Because the proposed project areas are already primarily non-forested, and have been in this condition for many years, they should not adversely affect those species of birds of conservation concern that use forested habitat. Any adverse effect to species of birds that require forest habitat has already occurred when these areas were cleared of trees. None of the alternatives proposes to convert existing forest habitat to non-forest habitat. The proposed adjustments to the location of boundary fences, as proposed in the Proposed Action, would actually create additional forested area for birds that need forestland by moving boundary fences farther back from riparian areas. Since these areas would no longer be grazed and would be outside the grazing areas they would grow up to trees over time.

By providing a combination of forested lands of various forest types and age classes, by protecting wetlands and other unique habitat types, and by providing some non-forested areas of various sizes and structural and vegetation composition, as the Monongahela National Forest does under its Forest Plan and in its management, the habitat needs of the entire group of birds of conservation concern in the Appalachian Bird Conservation Region can be met.

## **Other Resources**

None of the proposed project areas occur in or near State or National Parks, conservation areas, wilderness, coastal zone areas, or other areas of recreational, ecological, scenic or aesthetic

importance (such as botanical areas, proposed Research Natural Areas, or National Recreation Areas).

There are no known Native American concerns from implementation of the Proposed Action or any of the other alternatives.

There should be no adverse effects to the timber or mineral resources, or to floodplains, from implementation of any of the alternatives.

As mentioned in the section on economics, depending on who the high bidders would be that would receive grazing permits for the project areas, it is possible that low income, minority, or disabled persons could benefit.

Of the four proposed project areas portions of the Callison/Clark Tract and the Rimel Allotment contain prime farmland. Implementation of any of the alternatives would not result in an irreversible or irretrievable commitment of resources on these areas. In the event that these prime farmlands would be needed for row crops or other agricultural production, they would be available for such use.

There are no known conflicts between implementation of any of the alternatives and the objectives of Federal, regional, State, and local land use plans, policies, and controls.

Implementation of any of the alternatives would not result in an irreversible and irretrievable commitment of resources.

There are not any adverse environmental effects that cannot be avoided from implementation of any of the alternatives.

Besides discussions in the Cultural Resources section of this document, there are no unique geographical areas within these project areas.

Environmental Justice (Executive Order 12898) – This Order requires consideration of whether projects would disproportionately impact minority or low-income populations. This decision complies with this Act. Public involvement occurred for this project, the results of which I have considered in this decision-making. Public involvement did not identify any adversely impacted local minority or low-income populations. This decision is not expected to adversely impact minority or low-income populations. However, depending on who the high bidders for the grazing permits would be, it is possible that low income, minority, or disabled persons could benefit.

## **Monitoring**

In most instances each allotment/grazing area on the Forest is visited at least once during the year. If improvements are being made to an allotment, or if there have been problems on the allotment, some allotments may receive several visits in a particular year. Most of these visits occur during the summer grazing season. However, some may occur prior to or just after the grazing season. During these visits National Forest personnel, normally district or zone Biological Technicians assigned to

work in the range program, or the Forest Rangeland Program Manager, look for problems and determine if the permittee is in compliance with their grazing permit and annual operating instructions. Items they typically look for are: is the permittee grazing the permitted number of livestock, are the livestock being placed on, or being taken off, the allotment at the proper times, is the area being overgrazed, have improvements been maintained, has vandalism occurred to facilities, and, if required, is rotational grazing being carried out.

As previously mentioned, the wooded riparian area that is presently not fenced on the Allegheny Battlefield Allotment would be monitored to determine if livestock are adversely affecting this area. If monitoring indicates that substantial damage is taking place to this intermittent stream, its banks and its riparian area and vegetation, and especially after a new livestock watering facility is developed in the east end of this allotment, as proposed in both the Proposed Action and the No Herbicide Use Alternatives, actions will be taken to fence out this area.

The effectiveness of herbicide applications will also be monitored. See mitigation measures, item k.

## **Chapter 4**

### **CONSULTATION AND COORDINATION**

The MNF consulted and received input from the following Federal, State and Local Agencies, and individuals, during the development of this environmental assessment:

#### **ID TEAM MEMBERS:**

Harry Pawelczyk, Range Management Specialist, Monongahela National Forest (MNF)  
Gary Kolesar, Biological Technician, now with the Allegheny National Forest  
Barry Edgerton, Hydrologist, MNF  
Stephanie Connolly, Soil Scientist, MNF  
Dan Arling, Forest Wildlife Biologist, MNF  
John Calabrese, Forest Archeologist, MNF  
Jan Garrett, Forest Ecologist/Botanist, MNF (no longer with the Forest Service)  
Don Palmer, Forest Recreation-Wilderness Program Manager, MNF  
Raymond Brown, North Zone Wildlife Biologist, MNF  
Michael D. Owen, Aquatic Ecologist, MNF  
Andrew Stump, Biological Technician, Cheat-Potomac Ranger District, MNF  
Dave Gibson, Biological Technician, Marlinton Ranger District, MNF  
Melissa Thomas-Van Gundy, Forest Ecologist/Botanist, MNF  
Laura Hise, NEPA Specialist/Forest Monitoring Coordinator, MNF  
Kimberley Johnson, Assistant Forest Supervisor for Natural Resources, MNF  
Jeffrey Hammes, Cheat-Potomac District Ranger, MNF

#### **FEDERAL, STATE, AND LOCAL AGENCIES:**

Allan Glasscock, WVDNR  
Shawn Head, WVDNR

US Fish and Wildlife Service, Elkins Field Office  
Natural Resources Conservation Service

## INDIVIDUALS/ORGANIZATIONS

Mr. Elmer Carr  
Mr. Jim Bensman/Heartwood  
Mr. Marvin Hershey  
Mr. Milford Jones  
Mr. Riley Barb

## **Chapter 5**

### APPENDIX A

Issues that were raised during scoping that will not be addressed in detail and the reasons for this include:

1. One organization felt that grazing is an inappropriate use of public land. This issue is outside the scope of the purpose and need for action. That livestock grazing is an appropriate use of National Forest lands has already been determined in various laws and regulations and is allowed by the Monongahela National Forest Land and Resource Management Plan. As an agency managing under multiple use concepts, grazing is an allowable activity on National Forest lands. Also see response to comments on the EA in the project file.

2. One person commented that herbicide use on multi-flora rose was probably necessary, but stated that if the big clumps are cut down by hand prior to herbicide treatment less herbicide would be required to treat the resulting sprouts, it would reduce the risk of herbicide exposure to the field crew applying the herbicide, it would reduce herbicide costs, and it would control droplet drift more effectively. This issue will not be addressed in detail. A mature multi-flora rose plant has more stem and leaf area to absorb herbicide than a smaller clump of stem sprouts would. A larger amount of active ingredient of the herbicide would be absorbed by a large bush with more surface area of leaves and stems as compared to small stem sprouts that still have a large root system. The large root system of the uncut, large bush would be more likely to be adversely affected by the herbicide and more likely killed or severely stressed. Spraying stump sprouts may not result in the absorption of enough herbicide to kill the mature root system they sprouted from. Cutting the big clumps of multi-flora rose, before treating them with herbicide would more than double the amount of work needed to treat these non-native, invasive plants in this fashion. The multi-flora rose bushes contain numerous very sharp thorns. The canes of this plant grow up and arch over, making it difficult to access the base of the plant for cutting with hand tools. The thorns cut and puncture skin and eyes, hook and tear clothing, and are extremely difficult to cut down by hand without causing injury to personnel. More time is needed to cut and then spray the plants months later after they re-sprout than to just spray them with herbicide. Many of the multi-flora rose plants needing treatment are growing through barbed wire and woven wire fences. This further complicates their hand cutting and worker safety. By spraying them, and allowing them to rot in place, or to break them down after they are brittle, fences can be maintained without the excessive work of removing cut green canes from the fences and the danger to the workers is reduced. First cutting, and then later spraying stump sprouts,

requires two treatments over a several month time frame. Time is needed after hand cutting for the stump sprouts to grow, so they can be sprayed. Spraying normally would only require a single treatment and the applicator would not have to come into direct contact with the plant. It is extremely difficult to find contractors, employees or other sources of labor that are willing to cut down large multi-flora rose bushes with hand tools. The Forest has attempted in the past to have personnel from a correctional center hand cut multi-flora rose and they declined due to the hazard to personnel.

3. One agency strongly supported the proposal to restrict group/reunion type camping with the use of camping trailers inside the Queens Allotment. One individual felt that group/reunion type camping with the use of camping trailers within the Queens Allotment should be allowed to continue. This issue is minor to the decision to be made and is already decided by regulation, Forest Plan or other higher level decisions. The Queens Grazing Allotment has been a grazing allotment for over 30 years. The Forest Service has never officially designated the allotment as a group camping area. Past group/reunion type camping that began taking place in this area was not fully supported by the Forest Service, but apparently in an effort to be a good neighbor, was tolerated/overlooked by Cheat Ranger District personnel at the time either because the permittee did not object, or because later the allotment was vacant and the camping did not appear to be a high priority for law enforcement action. It is not fair to the public to allow selected persons and/or groups to camp in this area while others cannot. There are several dispersed camping areas on National Forest lands to the north of the Queens Allotment, in the vicinity of the Vickers and Wratford Grazing Allotments, and outside of these allotments, where dispersed or group camping is allowed and can be carried out. There are numerous other dispersed camping areas outside of allotments elsewhere on the Forest as well. There are also many developed campgrounds and picnic areas on the Monongahela National Forest with associated facilities where group camping and/or family reunions can take place. The Queens Allotment does not have any facilities for group camping, such as rest rooms, a source of safe drinking water, garbage cans, utilities, law enforcement coverage, etc. Since livestock, such as cows with calves, or bulls, can threaten, attack, injure, or, although very rarely, even kill people, camping within an allotment while livestock are using the area can jeopardize the safety of campers, especially children, and is not promoted. Another public safety concern is that in order to access the part of the allotment where the group camping takes place one must cross an old, narrow, wooden bridge that spans one of the ditches that drains the wetland. This bridge is not inspected and maintained for use by public vehicles, including the heavier pick ups with slide in campers on the back, or pull behind campers. This bridge was not constructed for such use. Individuals or small parties of a few individuals will still be allowed to walk in and tent camp within the allotment, preferably outside the grazing period. The Forest does not have the funding to develop and maintain new camping areas at this time and the Queens Allotment has not been selected as a new site for campground development. By addressing the wetland concern through proposed fencing and this analysis, the Forest would like to reactivate grazing on this allotment. The primary reason for addressing this camping issue in the Queens Allotment is to document that the Forest prefers that group/reunion camping no longer occur at this location. Due to the amount of human disturbance, camping within the allotment, especially by larger groups, is not consistent with the wildlife goals for areas within the 6.1 management prescription where remote habitat for wildlife is emphasized.

4. One agency recommended that willows or other vegetation such as alder or aspen should be planted along or in the streamside riparian zone of Cockran Creek in the Rimel Allotment for bank stabilization after the multi-flora rose bushes that are growing in the fenced-out riparian area of Cockran Creek are treated with herbicide. This recommendation will not be carried forward because

a beaver was observed swimming in one of the larger pools of Cochran Creek during field work on this allotment, and several fresh beaver runs/paths were observed leading from the creek, through the riparian area, and out into the pastures. Unless these beavers are removed, any planting of young rootstock that is a desirable food for beavers, such as those species named above, would be eaten and the time and funds expended on this planting would be wasted. Previous plantings done along this creek inside the allotment have not fared well due to beaver damage. Bare areas along the creek from past flooding have already healed naturally. Trapping beavers from the allotment would not solve this threat to the plantings because the beavers occur up and down this stream, in and outside the allotment, much of which occurs on private lands. Over time the beavers would move back into the allotment. Funding is not available to remove all beavers from this creek/watershed and the Forest Service does not have the authority to do such work on private lands. Furthermore, the beaver is native to the Monongahela National Forest, is often considered a keystone species for wetland establishment, and holds great intrinsic value for non-consumptive wildlife users on the Forest, and therefore should be left unmolested in its natural surrounding whenever possible.

5. One person said that at the Queens Allotment the Forest Service should not plug the drainage ditches that presently drain the wetland, and should not replace the material that was removed and sidecast while ditching the wetland. He felt that this is a waste of taxpayers' money and that we should leave the bulldozer out. This recommendation will not be carried forward. The work proposed for the Queens wetland is considered ecosystem restoration work, which the Forest Service has been directed to carry out in its management. Restoring the wetland also has implications for water quality and watershed protection. The two ditches that drain the wetland flow into the Shavers Fork River, which is a high quality cool water fishery. The Shavers Fork also provides industrial water, and likely, drinking water, to the downstream town of Parsons, WV. During heavy precipitation, sediment would likely be entering the Shavers Fork from these ditches. The proposed work would reduce sedimentation to the Shavers Fork because more water would be stored in the restored wetland and less water would drain off quickly during storms to carry sediment to the river. The same applies to nutrients. By plugging the drainage ditches that drain the wetland into the river, and by restoring the lateral water flow across the wetland through replacement of the material that was removed and sidecast from the ditch that runs through the wetland, more nutrients would be taken up by the aquatic vegetation in the restored wetland and less would enter the Shavers Fork. Fencing out the wetland would also prevent livestock from walking and defecating in the wetland and would provide a buffer of upland vegetation around the wetland to absorb nutrients from livestock waste that might otherwise enter the wetland and eventually the river.

6. One person recommended that instead of carrying out the proposed action at the Queens Allotment, the Forest Service should not graze it, but instead should apply plenty of lime, fertilizer, and seed, cut the area for hay or mow it a couple of times a year, and plant some wildlife food plots. This recommendation is outside the purpose and need. The Queens Allotment has been a grazing allotment for the past 30 or so years. The proposed action proposes, with some modifications to facilities, to continue this use on this area. If this area were managed for hay cutting, it would need to be converted from a grazing allotment to a hay cutting special use permit area. Due to the noxious weeds and brush currently growing on this area it is unlikely that any one would be interested in cutting hay off this area in its present condition. The noxious weeds and woody brush would still need to be controlled and the area re-vegetated to higher quality forage plants before the area would be attractive for hay cutting. Some portions of the allotment also contain surface rocks which would prevent hay cutting on these portions of the area. If food plots for wildlife were planted, the area would need to be converted from a grazing area to some type of special wildlife habitat



improvement/key area. Food plots require annual and more intensive management, and cost more money per acre to maintain than pasture land. It is felt that limited wildlife funds can be used in other, more effective ways to manage wildlife habitat. The Forest feels that continuing to manage this area as an allotment, and restoring/protecting the wetland, is the best overall approach to managing this area.

7. ATV/ORV damage to the Queens wetland. Under the No Action Alternative, the existing wetland within the Queens Allotment would not get fenced because the allotment would be phased out and no longer grazed. There would be no need to continue to maintain the current allotment boundary fence and the locked gates on this area. Being in a area of the Forest where law enforcement patrols are less frequent, yet with a history of law enforcement problems, while also being adjacent to an open county road, it is highly likely that off highway vehicles (OHV's)/all terrain vehicles (ATV's) will eventually begin driving through this vacant allotment and the unfenced wetland and the riparian areas within the allotment and causing damage to them. Maintaining this allotment as an active allotment, with a boundary fence and with the wetland and riparian areas within it fenced, will more likely insure these sensitive areas will not be disturbed by illegal OHV/ATV use. If the Queens allotment was abandoned there would be no presence of a grazing permittee to assist the Forest Service in monitoring and reporting illegal activities on the area and enforcement of "No group/reunion type camping inside the allotment" would likely not occur to the same degree as if the area was an active allotment with a permittee and with government owned improvements to protect. Law enforcement and resource damage in this portion of the National Forest would likely increase if this allotment is not maintained as an active allotment.

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